

# Analysis of Generation Z's Housing Affordability and Preferences Based on Price to Income Ratio in Jakarta Region

Josua Jeffrey Handopo\* and Raden Aswin Rahadi

*School of Business and Management, Institut Teknologi Bandung, Indonesia*

*E-mail address: josua\_jeffrey@sbm-itb.ac.id*

**Abstract** - The uprising trend of house pricing in Indonesia has become a much-discussed phenomenon. This particular issue brings a new problem, especially for Indonesian Gen Z that live in a big city like Jakarta, where they are struggling to find a home they can afford. This research will discuss Gen Z's housing preferences and affordability in having a house, using the price to income ratio in Jakarta. The method used in this paper is derived from Pradana (2020) and several other research related to preferences and housing affordability. Gen Z housing preferences' scope will mainly focus on aspects like the dweller's characteristics, product specifications, future considerations, and other supplemental factors, while the affordability aspect will be measured using Bourassa (1996) model. The results of this paper show that the most important variable for Gen Z is the product specifications. Moreover, the affordability limits (AL) that are derived from the interest rate and term of loans from 5 banks that are being used in this research do not really affect the affordability index of Gen Z or become a pivotal factor.

**Keywords** - *Generation Z; Housing Preferences; Affordability; Price to Income Ratio*

## I. INTRODUCTION

Right now, housing and properties are considered one of the luxuries for younger generations, especially for those who live in big metropolitan areas like Jakarta and Bandung. The fact that the economy and financial activities are mainly condensed in those big cities give an enormous boost to why the property and housing prices in those regions are on the rise. Jakarta has been a highly-populated area in Indonesia with a total area of 4.384 km<sup>2</sup> and a population density rate touching 16.704 people/km<sup>2</sup>. With such a significant population and limited space, it opens up an ample opportunity for property developers and companies to keep opening spaces for residential areas [1]. It is common knowledge for everyone that when the demand for certain goods is rising and the supply itself becomes limited, the price will rise. It is worsened by the fact that there are no specific regulations from the Government regarding property pricing, rendering customers helpless as the price keeps growing through the roof [2].

This phenomenon explained above has become a significant matter to be considered for younger

generations (Generation Z). Gen Z is an abbreviation for Generation Z, which is the demographic term of generations for those whose birth years ranging from 1995 to 2010 [3]. They are considered the ones who start to "live and breathe" through technology as they were born in a wholly digital environment, and are soon to dominate the workforce composition [3]. This fact was supported by the fact that most Generation Z spent a minimum of 9 hours on the digital environment [4]. Generation Z is considered to be the one who is always online and present where they care about trends and critical issues that go around them because of high information accessibility, giving them another nickname "Digital-ites" [5].

Generation Z likes to express their individual identity in many ways, and one of them is through the brands that they wear where they do not want to buy brands only to fit in the norms [6]. This behavior may lead to a consumptive behavior as they are not hesitant to spend more on personalized premium products to highlight their own individual value [6]. Having these behaviors may be one of the factors that make it difficult for them to have their own properties. What makes it worse is that, almost 30% of Gen Zs who took a surveys admitted that they had lost their jobs, had been placed in temporary or full-time unpaid leaves, worked fewer hours or more extended hours without any raise due to the current pandemic [7]. Logically, this may hinder some of their dreams of having their housing properties as their income source has been cut off significantly. Fortunately, based on the same survey, the pandemic has raised Millennials and Gen Z long-term financial literacy and prudence because of the future uncertainties [7].

On the other hand, utilizing properties or houses as a form of investment is deemed to be less favorable for Gen Z than other financial instruments like mutual funds, stocks, and other instruments due to the high amount of funds needed [8]. People will also expect more extended returns in the real estate investment rather than other short term investments [8]. Despite that, Indonesia's overall residential property market is deemed to be stable and on the positive trend since 2015 according to Global Property Guide and Bank Indonesia. The uprising trend was then corrected in 2019 due to the inflation, which made the property prices fall by 1,17% [9].

Another emerging problem that makes most of the Gen Z will find difficulties in having their own home is

because the total annual growth rate of their income in the next five year (60%) can not keep up with the annual growth rate of property price in the same duration (150%) [10]. Even though the Government has put up some efforts to help them with lower mortgage rates and lowered down payments [11], owning a property or a house may seem like a wild dream for them. The Indonesian Government itself has also been giving an extra stimulus package of \$8 Billion, in which \$104 million of them were used to help subsidize the housing programs for 175.000 new homes due to the current COVID-19 situations [9]. Many private financial institutions like Banks also implement more policies that encourage young people to own their property, like Asian Development Bank, which allocated \$300 million to accommodate fixed-rate loans on mortgage lending [12].

Despite all those efforts from various institutions, it looks like it will be close to impossible for younger generations (Gen Y & Z) to have their housing properties because, due to the fact that the annual increase rate for property in Indonesia is 17% [13]. In comparison, the annual increase rate for the average minimum wage is only 10% [13]. It will be even more challenging in a big metropolitan city like Jakarta, where it is deemed impossible for most younger generations to afford a house in the heart of the city. The average price of houses and property in the Bekasi Area ranges from IDR 1,2 Billion for Summarecon Bekasi Area to around IDR 600 Million around Tambun Area, and based on the data from their platform, house with IDR 300 Million price tag is already considered extremely rare [13].

Depending on the house price to annual income ratio stated, the reasonable price of a house that we should buy is three times our total income [13]. If we take an example from the house in the Tambun area, which costs around IDR 600 million, we will need to make around IDR 200 million annually or IDR 16 million per month. When we see the average minimum wage rate in Indonesia, only a small portion of our Gen Zs can reach the rate of IDR 16 million per month.

Other alternatives may be considered for Gen Z to have their own house like KPR that are available throughout bank institutions across the [8]. The problem is whether or not we can convince the bank that we have the capabilities to pay the loans. The majority of banks will have a thorough background check and calculation on whether one is eligible for the loans or not, and it will likely be more challenging for Gen Z, who are still early in the professional world, to fulfil the requirements [8]. It will be advisable for younger Generations to set their priorities straight and control their consumption rate to have enough funds to meet the basic requirements in KPR, which is the down payment. If we take an example from the KPR simulation of Bank Central Asia, the largest private bank in Indonesia, for young professionals at age 21 to take a loan for a house at IDR 600 million with 20 years tenor, we will at least need IDR 60 million for the down payment.

Therefore, by looking at all the facts above it will be quite a challenge for Gen Z that live in heavily populated area like Jakarta with higher GDP to have their own home. The current pandemic situation and the consumptive tendencies of Gen Z also worsen the affordability index and capabilities of owning housing properties.

## II. METHODOLOGY

In this research, the frameworks and variables used will be mainly derived from previous research, with various variables like Product Specifications, Future Considerations, Dweller Characteristics, and Supplemental Factors [8]. All of those variables will be checked whether or not they have significance correlation to the housing price that ultimately affect the affordability index. The conceptual framework below will show the relationship between the variables.

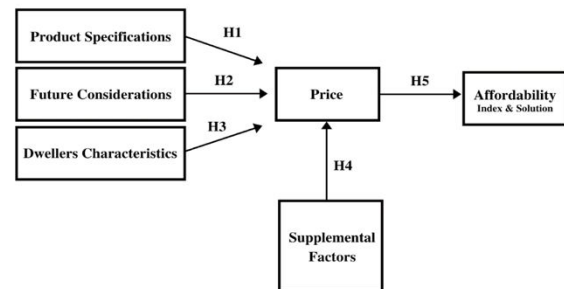


Fig. 1. Conceptual Framework

The scope of this research will be focused on Jakarta Gen Z that born from 1995 to 2002, because they are more likely to have been included in the workforce with fixed income each month. That data result from each variables will be gathered using quantitative approach through questionnaires, where the sample population in this research will have to reach at least 100 respondents based on sample population to size of populations theory [14]. The data that has been gathered will be processed using descriptive analysis method and tested through SMART-PLS and SPSS for the reliability and validity check while looking at the causal relationship between the variables and hypotheses.

The affordability measurement will utilize a method that invented by Bourassa [15] with formula written below:

$$AL = \left( \frac{\alpha}{1 - \beta} \right) \left( \frac{1 - (1 + i)^{-N}}{i} \right)$$

Prior to calculating the price to income ratio, there needs to be a certain understanding of the extent of the affordability limit and which one can be considered as affordable and which one is not. Therefore, with house

price Y is considered affordable for an individual with X gross income, if  $\frac{Y}{X} \leq AL$  otherwise it is considered unaffordable [15]. This resulting in the affordability limit (AL) itself needs to be bigger than the price to annual income ratio ( $\frac{Y}{X} \leq AL$ ) in order for a house to be considered affordable for Gen Zs in the Jakarta region.

### III. RESULTS

#### A. Descriptive Analysis

Descriptive Analysis will help to summarize and interpret the data processed by utilizing statistical-univariate statistics. Each variable will use the mean, min, max, and standard deviation in the statistics. The table below will further describe the result.

TABLE I  
PRODUCT SPECIFICATION DESCRIPTIVE ANALYSIS RESULT

| Indicator | N   | Mean  | Min | Median | Max | Standard Deviation |
|-----------|-----|-------|-----|--------|-----|--------------------|
| PS1       | 203 | 5.473 | 3   | 6      | 6   | 0.697              |
| PS2       | 203 | 5.320 | 2   | 5      | 6   | 0.801              |
| PS3       | 203 | 5.025 | 1   | 5      | 6   | 1.038              |
| PS4       | 203 | 5.837 | 2   | 6      | 6   | 0.453              |
| PS5       | 203 | 5.187 | 2   | 5      | 6   | 0.873              |
| PS6       | 203 | 4.970 | 1   | 5      | 6   | 1.096              |
| PS7       | 203 | 5.000 | 1   | 5      | 6   | 1.069              |
| PS8       | 203 | 5.059 | 2   | 5      | 6   | 0.950              |
| PS9       | 203 | 5.365 | 2   | 6      | 6   | 0.816              |
| PS10      | 203 | 4.172 | 1   | 5      | 6   | 1.315              |
| PS11      | 203 | 4.286 | 1   | 4      | 6   | 1.095              |

The highest mean that acquired from Table I is 5.837 from Indicator PS4 that cover the safety aspects of house surroundings and environment as the most important factors, while the lowest mean is PS10 that cover housing type (townhouse or complex). All of the indicator's standard deviation seems to be lower than the average of each indicator, resulting in a conclusion that the data is homogenous.

TABLE II  
FUTURE CONSIDERATIONS DESCRIPTIVE ANALYSIS RESULT

| Indicator | N   | Mean  | Min | Median | Max | Standard Deviation |
|-----------|-----|-------|-----|--------|-----|--------------------|
| FC1       | 203 | 3.892 | 1   | 4      | 6   | 1.335              |
| FC2       | 203 | 5.488 | 2   | 6      | 6   | 0.809              |
| FC3       | 203 | 4.576 | 1   | 5      | 6   | 1.243              |

Based on Table II, the most important factors of Jakarta Gen Z when purchasing a house is that the future pricing of the house that they buy needs to be higher compared to when they bought the house (FC2), as it has the highest mean (5.488). One of the conclusions that can be taken from this is that Jakarta Gen Z also consider the investment value of their house. The lowest average value from Table II is the FC1 that stated the importance of the "elite" area. Many Jakarta Gen Zs may see the prejudice and stereotype of an elite area as the least important factor, yet there are some that still see it as important factors due to the highest value (max) of FC1 in Table II is 6. All of the indicator's standard deviation seems to be

lower than the average of each indicator, resulting in a conclusion that the data is homogenous.

TABLE III  
DWELLER CHARACTERISTICS DESCRIPTIVE ANALYSIS RESULT

| Indicator | N   | Mean  | Min | Median | Max | Standard Deviation |
|-----------|-----|-------|-----|--------|-----|--------------------|
| DC1       | 203 | 4.522 | 1   | 5      | 6   | 1.124              |
| DC2       | 203 | 5.749 | 1   | 6      | 6   | 0.628              |
| DC3       | 203 | 4.995 | 1   | 5      | 6   | 1.020              |
| DC4       | 203 | 4.798 | 1   | 5      | 6   | 1.193              |
| DC5       | 203 | 3.828 | 1   | 4      | 6   | 1.391              |
| DC6       | 203 | 2.970 | 1   | 3      | 6   | 1.357              |
| DC7       | 203 | 2.635 | 1   | 2      | 6   | 1.370              |

In the Dweller Characteristic variable, DC2 has the highest mean with 5.749 and the lowest is DC7 with 2.635 average, which has a negative statement about house flexibility. It can be interpreted that financial stability (DC2) has been the most important factor when they decide to buy a house and they also think that having a house is indeed still compatible with their commonly flexible lifestyle. All of the indicator's standard deviation seems to be lower than the average of each indicator, resulting in a conclusion that the data is homogenous.

TABLE IV  
SUPPLEMENTAL FACTORS DESCRIPTIVE ANALYSIS RESULT

| Indicator | N   | Mean  | Min | Median | Max | Standard Deviation |
|-----------|-----|-------|-----|--------|-----|--------------------|
| SF1       | 203 | 5.300 | 1   | 6      | 6   | 1.084              |
| SF2       | 203 | 4.517 | 1   | 5      | 6   | 1.167              |
| SF3       | 203 | 5.049 | 1   | 5      | 6   | 1.054              |
| SF4       | 203 | 4.330 | 1   | 5      | 6   | 1.333              |
| SF5       | 203 | 5.049 | 1   | 5      | 6   | 1.077              |
| SF6       | 203 | 4.138 | 1   | 5      | 6   | 1.585              |
| SF7       | 203 | 4.852 | 1   | 5      | 6   | 1.161              |
| SF8       | 203 | 3.951 | 1   | 4      | 6   | 1.514              |
| SF9       | 203 | 3.256 | 1   | 3      | 6   | 1.523              |

From Table IV, the highest mean in supplemental factors variable is the SF1 or the mortgage payment aspects with 5.3 average, while the lowest is the SF9 (3.256) that gives negative statements about one's specific month and timing to buy a house. This shows that the Jakarta Gen Z highly put the mortgage payment of their house as the main consideration and they also put in regards the importance of timing when to buy a house like the peak season or the time when other needs (school fee's down payment) emerge. The standard deviation of each indicator in Supplemental Factors Analysis seems to be lower than each of the means, where it means that the data can be classified as homogeneous.

TABLE V  
PRICE DESCRIPTIVE ANALYSIS RESULT

| Indicator | N   | Mean  | Min | Median | Max | Standard Deviation |
|-----------|-----|-------|-----|--------|-----|--------------------|
| PR        | 203 | 5.089 | 4   | 5      | 6   | 0.527              |

The price variables here are based on price that generated from each respondent selected preferences. Based on the result of the average mean which is 5.089 and 5 as the median, the suitable price for Jakarta Gen Z will also be within range 5 and above. Based on this fact and the amount of price that they are willing to pay (the majority of IDR 1-2 Billion), it will be deemed impossible for Jakarta Gen Z to have a house with their preferences. Even by considering the minimum value in the variable which is 4, it still be considered hard for them as their desired house price majorly only falls within range 1 to 2 out of 6 (below IDR 1 Billion and IDR 1-2 Billion) [19].

## B. Validity and Reliability Test

The convergent validity of this research will see the causal relationship between the variable indicator with the Composite Reliability (CR). The CR itself needs to be above 0.6 in order for the variable indicators to be considered as valid [16]. According to Table VI below, each variable is considered as valid as the CR result is above 0.6 and able to meet the convergent validity requirements.

TABLE VI  
COMPOSITE RELIABILITY RESULT

|                              | CR   |
|------------------------------|------|
| Product Specification (PS)   | 0.82 |
| Future Consideration (FC)    | 0.64 |
| Dweller Characteristic (DC)  | 0.64 |
| SF Supplemental factors (SF) | 0.75 |
| Price (PR)                   | 1    |

The discriminant validity in this research will be determined using the correlation between each variable that has been processed with SPSS. Discriminant validity itself is needed to make sure that each variable construct is measuring different things [17]. The result of the analysis will be valid if each correlation between variable constructs is less than 0.9, which ultimately will prevent multicollinearity between constructs [18].

TABLE VII  
CORRELATION RESULT BETWEEN VARIABLE

|    | PS    | FC    | DC    | SF    | PR    |
|----|-------|-------|-------|-------|-------|
| PS | 1     | 0.497 | 0.419 | 0.584 | 0.682 |
| FC | 0.497 | 1     | 0.373 | 0.366 | 0.524 |
| DC | 0.419 | 0.373 | 1     | 0.422 | 0.576 |
| SF | 0.584 | 0.366 | 0.422 | 1     | 0.658 |
| PR | 0.682 | 0.524 | 0.576 | 0.658 | 1     |

From Table VII, the conclusion can be taken that there is no multicollinearity between variables as the number of Pearson's correlation between variables is still below 0.9, therefore considered as valid in discriminant validity.

For the indicator reliability test, there seems to be some indicators that are below the accepted consistency level and some of them are close and near the accepted limit. Like what happen with similar research [19], this phenomenon may indicate that there is a huge disparity among opinion and perception between Jakarta Gen Z. It can be a sign and guidance for respective stakeholders in

determining that several inconsistent factors can be ignored or regarded as unimportant. There will be a need for deeper research and understanding with a larger demographic area to fully understand and make sure the relevancies of those indicators between Gen Z in Jakarta and Indonesia.

Like what has been discussed before, there seems to be quite a difference between opinions of Gen Z in Jakarta about some indicators that are used in this research. Some of the indicators that showed extreme opinion differences are PS11 (green concept), FC3 (function), DC6 (availability of cash), DC7 (flexibility aspects), and SF9 (timing). Looking at the result, many of the Jakarta Gen Z still have mixed feelings about the green concept housing in a house where some of them see it as extremely important (15.3%) while the other do not really put it that seriously, choosing to remain neutral in the middle between agree and not agree (53.2%).

It may be kind of hard for the current Gen Z to understand and relate to some aspects like the purpose (function) of a house (FC3) and timing aspects (SF9), due to the fact that some of the respondents are still young (19-21 years old) and still considering or establishing their career path, while some other (>22 years old) has been adding house function as their consideration in choosing a house (ex: buying ruko for business). The same reason can also be implemented in the timing aspects (SF9), where in this research refers to time when certain months where the expenses are greater, like a kid's school season. The great disparity of opinion in Jakarta Gen Z for indicators DC6 and DC7 is also a problem indicating that they have different opinions on the liquidity aspects of the house. The phenomenon can happen because some of Jakarta Gen Z have a more modern view about the opportunity cost that they will lose by investing quite a big amount of money into owning their own house, yet some of them still prefer to prioritize having a house due to the sense of stability and investment value that they offer. Therefore, once again, further research in the future will be needed with a larger demographic reach to fully assess the indicators and its relevance for Jakarta Gen Z.

For the Internal Consistency Reliability Test, the reliability of the data was processed to determine its impact on the test score and results of the research [20]. It will utilize the Cronbach Alpha using SPSS where it utilize a theory that the closer Cronbach Alpha to 1, it will result in a more reliable data [21].

TABLE VIII  
CRONBACH ALPHA RESULT

| Cronbach's Alpha |                             |            |
|------------------|-----------------------------|------------|
| Cronbach's Alpha | Based on Standardized Items | N of Items |
| 0.826            | 0.852                       | 31         |

According to theory by A. Gliem and R. Gliem [22], the result of Cronbach Alpha in Table VIII is classified into the "Good" category and reliable enough to be



processed. Furthermore, by using theory from Ghazali and Latan [23], the result of Cronbach Alpha also falls into the reliable category due to the fact that it is more than 0.7.

### C. Inner Model Analysis

In the Internal Model Analysis researcher will utilize the R-Square number as an indicator [24]. The inner model itself can be categorized as Good (R-square at least 0.67), Moderate (R-Square at least 0.33), Weak (R-square at least 0.19) [24]. The calculation result of this research inner model will be shown in the table IX below.

TABLE IX  
R-SQUARE ANALYSIS RESULT

|            | R-Square | R-Square Adjusted |
|------------|----------|-------------------|
| Price (PR) | 0.6      | 0.592             |

The result above shows that the R-square (0.6) and R-square adjusted value (0.592) fall into the moderate category and very close to the Good limit category. When being put into percentage form the R-square will be 60% and R-square adjusted to be 59.2%. The conclusion that can be gathered is that the Price (PR) are proven to be 60% affected by the **product specification, future consideration, dweller characteristic, and supplemental factors** while the remaining 40% are affected by other variables outside the models.

### D. Hypothesis Testing

The hypothesis testing will be done using the bootstrapping method with 0.05 Alpha. The p-value will be used as a deciding factor in choosing whether to accept or reject the null hypothesis. It is stated that null hypothesis can be ignored when the p-value is as minimum as possible [25] while inner model coefficient value (T Statistic) needs to be lower than 1.96 for 0.05 Alpha assumption [26]. Null hypothesis itself is usually a hypothesis that researchers will try to prove wrong [19], because it states that there are no significant differences statistically between two variables. On the other hand, alternative hypotheses are hypotheses that have significant correlation between variables statistically [27].

TABLE X  
PATH COEFFICIENT RESULT

|             | Original Sample (O) | T Statistic | P Values | Hypotheses   |
|-------------|---------------------|-------------|----------|--------------|
| PS -> Price | 0.199               | 2.93        | 0.004    | Ha1 Accepted |
| FC -> Price | 0.127               | 2.22        | 0.027    | Ha2 Accepted |
| DC -> Price | 0.355               | 6.35        | 0.000    | Ha3 Accepted |
| SF -> Price | 0.251               | 4.55        | 0.000    | Ha4 Accepted |

From table X, the result of the correlations between variables can be described more clearly below:

1. Housing Product Specification (PS) to Price (PR) in Jakarta

- **H0<sub>1</sub> (null): Product Specifications have no reasonably positive correlation on the house prices.**
- **Ha<sub>1</sub> (alternative): Product Specifications have a reasonably positive correlation on the house prices.**

The T-Statistic calculation of PS to PR is 2.93 which is more than 1.96, with 0.004 P Values (< 0.05). Based on the result, the conclusion that can be taken is that there is a reasonably positive correlation on the product specification with price variable in Jakarta.

1. Housing Future Consideration (FC) to Price (PR) in Jakarta

- **H0<sub>2</sub> (null): Future Considerations have no reasonably positive correlation on the house prices.**
- **Ha<sub>2</sub> (alternative): Future Considerations have a reasonably positive correlation on the house prices.**

The T-Statistic result of FC to PR is 2.22 which fulfils the minimum requirement of 1.96 while the P Values of it is 0.027 which is lower than the 0.05. Based on the result, the conclusion that can be taken is that there is a reasonably positive correlation on the future consideration with price variables in Jakarta.

1. Dweller Characteristic (DC) to Price (PR) of housing in Jakarta

- **H0<sub>3</sub> (null): Dwellers Characteristics have no reasonably positive correlation on the house prices.**
- **Ha<sub>3</sub> (alternative): Dwellers Characteristics have a reasonably positive correlation on the house prices.**

The T-Statistic result of DC to PR is 6.35 which fulfils the minimum requirement of 1.96 while the P Values of it is 0.000 which is lower than the 0.05. Based on the result, the conclusion that can be taken is that there is a reasonably positive correlation on the dweller characteristics with price variables in Jakarta.

1. Housing Supplemental Factors (SF) to Price (PR) in Jakarta

- **H0<sub>4</sub> (null): Supplemental factors have no reasonably positive correlation on the house prices.**
- **Ha<sub>4</sub> (alternative): Supplemental factors have a reasonably positive correlation on the house prices.**

The T-Statistic result of SF to PR is 4.55 which fulfils the minimum requirement of 1.96 while the P Values of it is 0.000 which is lower than the 0.05. Based on the result, the conclusion that can be taken is that there is a reasonably positive

correlation on the supplemental factors with price variables in Jakarta.

### E. Affordability Measurement

The affordability measurement will utilize a method that invented by Bourassa [15] with formula written below:

$$AL = \left( \frac{\alpha}{1 - \beta} \right) \left( \frac{1 - (1 + i)^{-N}}{i} \right)$$

The affordability limit (AL) needs to be bigger than the price to income ratio ( $\frac{Y}{X} \leq AL$ ) in order for a house to be considered affordable for Gen Zs in the Jakarta region. For the calculation to be done, Table XI below will show 5 Banks in Indonesia with the lowest mortgage rate that will be put into the consideration.

TABLE XI  
BANK WITH LOWEST MORTGAGE RATE IN INDONESIA

|          |               | BTN      | BJB      | BRI      | BCA      | Mandiri  |
|----------|---------------|----------|----------|----------|----------|----------|
| <i>i</i> | Interest Rate | 8.88%    | 9.75%    | 7.60%    | 8.75%    | 7.58%    |
| <i>N</i> | Term of Loan  | 25 years | 15 years | 20 years | 20 years | 20 years |

The remaining variables in the formula like the mortgage ( $\alpha$ ) is 30% based on the rules set by Bank Indonesia, together with a down payment ratio ( $\beta$ ) of 15%. After collecting the data needed, we can see the affordability limit for each bank as follows:

TABLE XII  
AFFORDABILITY LIMIT (AL) CALCULATION

|    | BTN | BJB  | BRI  | BCA  | MANDIRI |
|----|-----|------|------|------|---------|
| AL | 3.5 | 2.72 | 3.57 | 3.28 | 3.58    |

Table XII shows that the affordability limit from each bank differs based on their interest ( $i$ ) and term of loan ( $N$ ). The bank with the lowest affordability limit here is BJB with 2.72, that means it will be harder for Jakarta Gen Z to be considered as “eligible” in owning a house if they use BJB. The bank with higher affordability limit like Mandiri and BRI will be considered as the one who can help increase the affordability level of Jakarta Gen Z.

TABLE XIII  
GEN Z AFFORDABILITY CALCULATION

|              | BTN    | BJB    | BRI    | BCA    | Mandiri |
|--------------|--------|--------|--------|--------|---------|
| Can Afford   | 2.96%  | 2.96%  | 2.96%  | 2.96%  | 2.96%   |
| Can't Afford | 97.04% | 97.04% | 97.04% | 97.04% | 97.04%  |
| Total        | 100%   | 100%   | 100%   | 100%   | 100%    |

By looking at the calculation result in Table XIII, only 2.96% of the Jakarta Gen Z can afford a house based on their preferred house price and current income, while 97.04% can't afford it. Despite the different specifications of products (interest and term of loan) from each KPR that result in various affordability limits (AL), the number of Jakarta Gen Z that can afford a house is the same between each bank (2.96%). This means that the difference in interest and term of loan from each bank do

not significantly affect the affordability rate Jakarta Gen Z that filled the questionnaire.

## IV. DISCUSSION

### A. Influence of Product Specification on House Pricing in Jakarta

Looking at the hypothesis testing result, **Ha<sub>1</sub>** falls into the accepted category which means that product specifications have a reasonably positive correlation on the housing price in Jakarta. The result supported a statement about the importance of building exterior and interior in product specification [28]. Rahadi [29] and Hapsarianity [30] also agreed on other aspects like brand (reputation), accessibility, security, and public facilities will also affect customer's preferences, while a research by Pradana's [8] adds various new indicators to further complement this research. Looking at the data result, the most important aspects in product specification that are chosen by the respondents is the security and safety of the surrounding house. These findings may become a future reference for developers and other respective stakeholder on what to focus into when considering product specification effect on the house price.

### B. Influence of Future Consideration on House Pricing in Jakarta

Looking at the hypothesis testing result, **Ha<sub>2</sub>** falls into the accepted category which means that product specifications have a reasonably positive correlation on the housing price in Jakarta. It is aligned with the statement about how future lookouts have some influence on both customer's preferences and house pricing [29]. From the research result, Jakarta Gen Z seems to put priority for their house's future value, resulting in a conclusion where they still see the house as a viable investment instrument. The least influential indicator in future consideration is the “elite” area prejudice, yet researchers think that it still needs to be considered as there still seems to be some Gen Z who see it as very important (max value = 6), therefore still have some influence on the pricing aspects.

### C. Influence of Dweller Characteristics on House Pricing in Jakarta

Looking at the hypothesis testing result, **Ha<sub>3</sub>** falls into the accepted category which means that dweller characteristics have a reasonably positive correlation on the housing price in Jakarta. This supports the statement of Dweller Characteristics influence on one's preference and housing price [31] [32]. The important conclusion that is pulled from the research results is that dweller characteristic's financial stability aspect is still a primary concern for Jakarta Gen Z when they are trying to buy a house and that the majority of them still see buying a house as a suitable option in their flexible lifestyle. There

are also other indicators that can be utilized by developers and other respective stakeholders are the existence of facilities that support one's hobby or interest, the density of population in the area, and proximity to office/business are something that also heavily influenced the consumer's preference and house pricing. The closest Jakarta Region that can fulfil those requirements is the South Jakarta Region where based on the research result also nominated as the most preferred location to live for Jakarta Gen Z with skyrocketing house prices.

#### *D. Influence of Supplemental Factors on House Pricing in Jakarta*

Looking at the hypothesis testing result,  $H_{a3}$  falls into the accepted category which means that supplemental factors have a reasonably positive correlation on the housing price in Jakarta. The result of the research further supports the statement about supplemental factors affecting the consumer preferences and house pricing in Jakarta Region [8] [15]. The indicator in the supplemental factors variable that seems to be put into more serious considerations by Jakarta Gen Z is the mortgage payment and timing. The timing here can be interpreted as customers will consider specific timing when they have larger spending like when the school admission session starts, therefore developers and other stakeholders can increase the supply and promotional effort to increase the price in a specific time frame when the customer will have less spending or larger income (ex: THR). Other factors like surroundings building and personal beliefs can also affect the increase or decrease of house price, while family aspects and backgrounds also set a certain price range for customers.

#### *E. Influence of House Price on Gen Z's Affordability*

The affordability ratio of Gen Z's in purchasing a house are measured using Bourassa [15] to get the affordability limit, and it needs to fulfil the  $\frac{y}{x} \leq AL$  requirement that mentioned before. The research compared 5 different KPR programs (BTN, BJB, BRI, BCA, Mandiri) with different interest rate and term of loans, yet each of them provide the same affordability result for Jakarta Gen Z which is 2.96%. It can mean that the difference in interest and term of loan from each bank do not significantly affect the affordability rate of Jakarta Gen Z that filled the questionnaire. The result was achieved through the usage of 30% mortgage and 15% down payment ratio based on Bank Indonesia regulation. Referring to the calculation done in this research, customers need to at least have IDR 15.000.000 to be considered as "eligible" to afford a IDR 1 Billion house.

## V. CONCLUSION

The result gained from data has been processed and discussed in chapter III. The validity and reliability of the data and research has been verified using the PLS-SEM and SPSS tools. The data gathered is further analysed using descriptive methods that give insight on Gen Z preferences in housing. Gen Z affordability itself has been conducted through comparing Affordability Limit (AL) that calculated through Bourassa [15] method with the annual gross income of each respondent to see the affordability index. In this part, researchers will conclude and compile the research findings that are stated below.

#### *A. Theoretical Implication*

Gen Z's preferences itself will be measured using 4 variables that have been mainly gathered through research done by Pradana [8] and several other studies. The 4 variables mentioned here are Product Specification (PS), Future Consideration (FC), Dweller Characteristics (DC), and Supplemental Factors (SF). The detailed indicators from each variable will be described below:

- Supplemental Factors : Interior design, building outside appearance, reputation of the developer, accessibility, safety and security, public facilities, size of the estate and field, age of the estate, strategic location, and green housing.
- Future Considerations : surrounding area reputation, investment value, purpose (function) of the house.
- Dweller Characteristics : demographics, personal financial situation, family background, one's job, hobby, and interest.
- Supplemental Factors : mortgages, maintenance cost, taxes, time, discussion with family, surrounding area, and personal belief.

Looking at the hypothesis testing, all the variables are proven to be reliable with positive significant correlation and influence on the house pricing in Jakarta region. Based on another result in the descriptive analysis, the most influential factor that affects Gen Z's preference is the product specification, the second one is future considerations, while on the third place is supplemental factors, followed lastly by dweller characteristics where it can be compiled in Table XIV below.

With the result, it can be concluded that the Jakarta Gen Z are more leaning towards product specification variables like size of the house, inside and outside design of the house together with its safety and accessibility, where it can be seen as their "most important" indicators in choosing a house. Other unique things about Jakarta Gen Z is that they do not really see a big need where a house should fulfil their hobby and interest (Dweller Characteristics), because they tend to have it fulfilled with public facilities outside of their house due to their strategic preferences of the housing area. The tendencies

to choose safe environment yet big The mean of each variable that gathered from the data is quite high with the majority of the median showing results of 5 and 6, where it can be concluded that the preferences of Jakarta Gen Z are high resulting in high prices too.

TABLE XIV  
 MOST INFLUENTIAL VARIABLES

|                         | N   | Mean  | Min | Max | Std. Deviation |
|-------------------------|-----|-------|-----|-----|----------------|
| Product Specification   | 203 | 5.063 | 1   | 6   | 0.93           |
| Future Consideration    | 203 | 4.652 | 1   | 6   | 1.13           |
| Supplemental Factors    | 203 | 4.493 | 1   | 6   | 1.15           |
| Dweller Characteristics | 203 | 4.213 | 1   | 6   | 1.28           |

The price to income ratio and affordability index of Gen Z in Jakarta that will be calculated using the house price (Y) and their annual income (X). The results show that the lowest ratio of Jakarta Gen Z is 0.07 while the highest one is 166666.67. This means that with the current income, the one with the 166666.67 ratio can be deemed as impossible for his/her to buy the house that they prefer due to high house price. The method by Bourassa (1996) also used to measure the affordability index from each bank (BTN, BJB, BRI, BCA, Mandiri) that ultimately will be compared the price to income ratio calculation, where it shows the same result for the 5 banks with 2.96% affordability index. Despite the different specifications of products (interest and term of loan) from each KPR that result in various affordability limits (AL), the number of Jakarta Gen Z that can afford a house is the same between each bank (2.96%). This means that the difference in interest and term of loan from each bank do not significantly affect the affordability rate Jakarta Gen Z that filled the questionnaire.

The price to income ratio, affordability index, and housing preferences of Gen Z and Gen Y in Jakarta will be compared using the previous research by Rahadi, et. al [19]. Table XV will help to highlight the difference between 2 generations in income ratio and affordability index.

TABLE XV  
 PRICE TO INCOME RATIO AND AFFORDABILITY INDEX COMPARISON

|       | Highest PR Ratio | Lowest PR Ratio | Affordability Index |
|-------|------------------|-----------------|---------------------|
| Gen Y | 416666666666.67  | 0.05            | 4.41%               |
| Gen Z | 166666.67        | 0.07            | 2.96%               |

According to Table XV, the affordability index of Gen Y in Jakarta is higher than Gen Z which indicates that there are more Gen Y with suitable knowledge about house pricing and aligning it with their preferences so that they can afford it rather than Gen Z. Another thing that needs to be considered is the Price to Income Ratio that both generations have where a small portion of them have “insane” expectations about their housing preferences and

resulting in a very slim chance of them to have a house. In talking about housing preferences in general, there seems to be little to no difference between Gen Y and Gen Z in terms of choosing a house where the product specification is still in the first place followed by future considerations, supplemental factors, and dweller characteristics. This phenomenon seems to happen due to the fact that most of Gen Y and Gen Z that filled this questionnaire are still closely related in terms of environment, exposure, norm, and habit that they live with.

### B. Practical Implication

With the high interest of many Generation Z to fill the questionnaire, there seems to be a considerable amount of demand for housing products for Gen Z. The problem is that with the current preferences and income that they have for the product itself, the majority of them will not be able to afford their dream house if they stick to their preferred desires. The continuously increasing house price itself is not really aligned with the increase of their income and salary, making it seem like a luxury for many of Gen Z, decreasing the number of housing owned by Gen Z. Government intervention regarding this matter is one of the things that hopefully will help Gen Z to solve the problem, yet there seems to be no major effect on the real condition in the market. In previous research, developers and other real estate companies seem to understand about the customer’s preferences and its implications on the house pricing in Jakarta, yet nothing concrete seems to be done to solve the problem to increase the affordability index [19].

For the Government, there seems to be some point that needs to be made where they should pay attention to the rising price of housing in Indonesia, especially in Jakarta. There needs to be regulations regarding the housing price and maybe financial policy like mortgage payment, down payment, and interest regulation to help increase the affordability index of Gen Z and help trigger the economy. There also needs a policy and development plan that will help to bring equal improvement in each area in order to make a more similar house pricing, as demand to live in “complete” areas like South Jakarta are increasing. Another aspect that can be considered by the government is the regulation about taxes and incentives regarding housing and real estate industry where it will definitely help many Gen Z closer to the dream of having their own house.

### C. Managerial Implication

The result of this research will help developers and real estate companies to help prioritize which aspects that they need to focus on when planning to build a real estate plan or business plan for Generation Z. Focusing on some of the product specification indicators like emphasizing on the safety of the surrounding areas and improvement on the green house concept may result in a more beneficial result for them rather than focusing on the dweller characteristics variable like hobby or interest of



their customer. This may result in a more focused effort and better expense management, where for example they do not build extravagant and redundant facilities to try and fulfil customer's interest or hobby.

#### D. Recommendation for Future Research

Further research with wider demographic reach and larger respondents will definitely help to increase the accuracy of deciding the Gen Z preferences in choosing a house, due to the fact that the Gen Z used in this research are the one who are more likely to be included in the labour force and having significant income (1995-2000) and many other limitations like the size of the respondents and time limit. The age limitation and other limitations itself also holds a certain effect on the inconsistency shown in chapter IV where there seems to be a disparity of opinions regarding Gen Z housing preferences. Adding other financial variables factors like the total amount of savings, investment plan, other assets available, and insurance may also help to determine the exact ratio and affordability rate on owning a house among Gen Z. There also seems to be a trend regarding owning a house in many surrounding regions across Jakarta region like Alam Sutra, Depok, BSD City, Bekasi, and many more, that need to be studied further, so it can help expand choices for Gen Z in having a house and increase their affordability index.

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