The Current State of Property Development in Indonesia During the Covid-19 Pandemic

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This study aims to understand the current state of real estate and property development in Indonesia, particularly in the Bogor, Depok, Tangerang, and Bekasi (Bodetabek) areas. The methodology of this study is by applying a quantitative approach to the research. This study was carried out by reviewing quantitative results with each target in mind to achieve the objectives. The confirmatory work was carried out using a structural equation model for validating the assumptions and checking the conceptual construct. Factor Analysis and Multiple Multinomial Logistic Analysis were performed to analyse the results of this study. Dat from 116 respondents was collected. It is concluded that the sample is sufficient for further analysis or 89.438% (KMO value). These factors can explain the variance. The analysis shows that there are two more categories added compared with the previous study conducted by Rahadi (2015). This study can be useful to understand the current state of real estate and property development in Indonesia, especially during the COVID-19 pandemic.

Keywords: *COVID-19; Real Estate; Property Development; Indonesia.*

Introduction

Property, for most people is perceived as a primary need that must be met. Maslow & McLeod (2018) stated that in the first and second stages of human's needs are shelter and security. According to Rahadi (2015), it is distinctive and incomparable with other commercial goods because it has two factors to set up the price; the given condition and the produced condition. Hence, deciding on a property requires complex decision making for a particular individual. The property sector pushes other sectors to expand, as the increasing population will increase property demand. This situation stimulates the real sector, including manufactured products, metal and non-metal manufacturing industries such as cement or ceramics, paint, interiors and furniture (Utami, 2017).

As the capital city of Indonesia and the hub of industry and government, Jakarta has allured the urbanisation of people all over Indonesia that has led to the high population density in Jakarta. According to Widyasamratari et al. (2019) Jakarta special district, Bogor, Tangerang, Bekasi occupy a total of 7500 km2, including Jakarta Metropolitan Area (JMA) or Jabodetabek (Jakarta, Bogor, Depok, Tangerang, and Bekasi) (Jakarta, Bogor, Depok, Tangerang, and Bekasi). JMA occupies 0.33% of the Indonesia land area, where 12% of Indonesia's total population is residing. Due to the 2010s, Jakarta's build-up has been successfully expanded to be a super city and sprawls to its peripheries crossing the provinces of Greater Jakarta, West Java, and Banten (World Bank, 2015). Thus, due to the facts, it has made Jakarta Metropolitan Area one of the densest areas in Indonesia, and the demand for property products has emerged. Moreover, Indonesia is the fourth largest nation in Indonesia, with a population of nearly 270 million in 2019. With much of the population and business practices focused in Java, the nation has enjoyed massive growth and economic progress for the past few years.

Those conditions mentioned before can fuel Indonesia's economy since property products can be utilised as private and productive, such as residential, commercial, industrial, or vacant land. Nevertheless, at the end of 2019, Asia and particularly Indonesia, witnessed a drastic lifestyle shift due to the Covid-19 pandemic that already spread worldwide. Quarantine interrupted people's regular life; they could no longer go to their workplace, eat in a restaurant, play sport in a sports centre, or attend entertainment events. The Covid-19 pandemic has been the most disastrous disease worldwide and disrupted people every day due to the government regulations of not allowing crowds or even to go outside. It also caused the change in economics, regional and global politics, social attitudes, and citizens' mentalities because mentally, it decreases the social role of a person (Butu et al., 2020).

For this cause, the real estate and property industry is also influenced by the changing behaviour of consumer; the demand for travel, hospitality property, and short-term leases are declining. According to McKinsey's survey in 2020, almost three quarters of Indonesian consumers' wages and investments declined as the effect of their willingness to work and ability to make financial ends meet has been adversely affected and caused them to be more vigilant in making transactions. Approximately 90 percent of Indonesians agree that the contribution of Covid-19 to their finances would continue well past two months. Thus, their preference of investing money would subsequently adjust, especially in the Bodetabek area. Moreover, enriching the study about property in Indonesia is also one of the objectives.

Literature Review

Consumer Behaviour after the Covid-19 Pandemic

On March 2, 2020, the first lawsuit was filed in Indonesia. Efforts have been made around the world to eradicate the virus. Governments have focused on well-established public health policies to slow the disease spread and to reduce the number of new outbreaks. Quarantine,

social distancing, and population containment are examples of public health strategies that have consistently aimed to discourage infection from person to person by dividing and distancing people from one another.

Consumer behaviour is the result of external and internal forces that affect the self-concepts and lifestyle. After the individuals undergo the decision phase, they face post-purchase processes that yield a new relevant impact in the internal and external characteristics, thus finally on their self-concepts and lifestyle. According to studies conducted by Butu et al. (2020), Grashuis et al. (2020), Starostin et al. (2020), consumption of goods in enclosed packaging continues to be the best choice with all factors taken into consideration. Food (canned food, cereals, sugar, and salt), drinking water, and first-aid medications and antibiotics were all purchased during quarantine. To prevent physical contact with others, consumers are more determined to place online orders for fresh vegetables directly supplied by farmers. The most significant feature tends to be price, followed by the ordering process, the time window, and finally, the minimum order criteria.

Moreover, McKinsey (2020) published multiple polls about the customer mood during the Covid-19 pandemic. As a result, it has impacted consumer behaviour in five main ways, each of which would have a lasting effect. The first one, the opinion of consumers, differs greatly across nations affected by Covid-19. Consumers in China, India, and Indonesia are consistently more optimistic than the rest of the planet. Consumers worldwide have reacted to the crisis and the resulting disturbance to their normal buying patterns by attempting a variety of shopping activities and expressing a strong desire (65% or more) to incorporate these behaviours in the future.

Consumer Decision Making in Property Products

Consumer decision-making is an important part of consumer behaviour. However, how we judge and buy products (and how much thought we put into these choices) varies greatly based on novelty and risk factors. In practice, nominal decision-making, also known as routine decision-making, does not necessitate a decision in the first place. A problem is established. An internal search (long-term memory) yields a single desired alternative (brand). The brand is purchased, and an evaluation happens only if the brand fails to function as predicted. Nominal choices arise because there is too little contact with the purchase. Nominal decisions can be divided into brand faithful decisions and repeat buying decisions (Mothersbaugh & Hawkins, 2016).

Extended decision-making necessitates a detailed internal and external knowledge hunt, accompanied by a complex analysis of different alternatives and a comprehensive post-purchase assessment. It's a response to a high degree of transaction participation. Doubts about its accuracy are likely to arise after the payment, prompting a thorough examination of the transaction. A small number of consumer choices attain this degree of complexity.

Antecedents of Attributes Influencing Consumer Behaviour on Property Products

Land ownership status is the preferred option for upper-middle society homes, according to Wulandari et al., (2016). It was evident early on that the party understands the importance of prioritising the legality of their land as their safe tenancy. The theoretical influence of the developer's name on the upper-middle society's acceptance of housing options and the impact of offers offered by developers to the upper-middle society. Construction efficiency, venue, developer's reputation, ventilation, and proximity to amenities were the most significant variables, followed by financial factors (price range and home loan) (Kumar & Khandelwal, 2018). Furthermore, according to Kumar Gupta & Malhotra (2016), in selecting a housing apartment, housing attributes such as family size, marital status, or the intent of purchasing a residential complex do not play a significant role in the Indian context. Before purchasing a home, consumers should weigh the following eight metrics. The house's location, usability, expense, physical qualities, infrastructure, architecture, architectural aspects, developer reputation, and land ownership are the most important factors (Mulyano et al., 2020). Moreover, according to a study conducted by Rahadi (2015), six attributes are affecting housing products in the Jakarta Metropolitan Area.
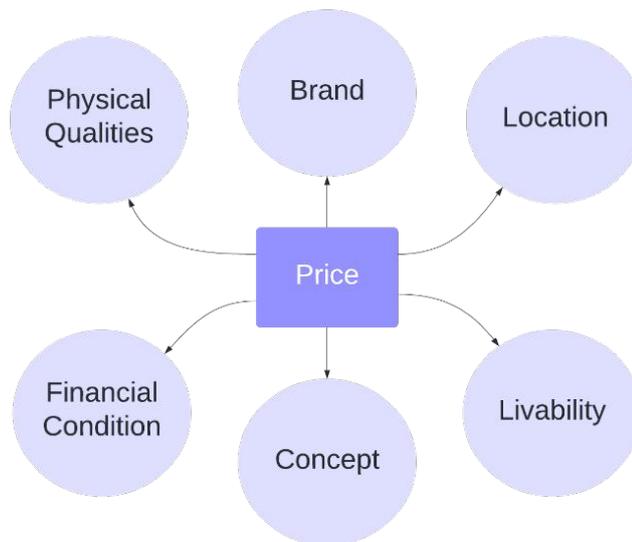

Figure 1 Categories of Attributes (Rahadi, 2015)

Research Design and Methods

This is an exploratory study to explain ambiguous situations or discover developments that may lead to new business opportunities. This study was carried out by reviewing quantitative results with each target in mind to achieve the objectives. To get a greater understanding of consumers' views and preferences, quantitative research data will be collected from all over Bodetabek using questionnaires. Both of the results will be evaluated with the help of statistics to address all of the testing questions. To avoid safe compilation, the elements in the

questionnaires will use a four-point Likert-type rating scale. The confirmatory work will be carried out using a structural equation model for validating the assumptions and checking the conceptual construct.

1. Factor Analysis

   Factor analysis is a technique for determining the relationship between a set of independent variables, which are then grouped into multiple factors, each containing a set of variables. Data summarisation and data reduction are the goals of factor analysis. Data summarisation is used to determine the relationship between variables using a correlation test. In contrast, data reduction is used after correlation, i.e., combining several analysed variables into factors.

2. Multiple Multinomial Logistic

   Multiple Multinomial Logistic Regression is a form of regression that predicts the likelihood of occurrences in the dependent variable with a mixed numerical and categorical (independent) predictor variable. This type of regression has a total value of more than two independent variables and is not stratified (nominal). Multiple logistic regression means a logistic regression model with more than one independent variable.

Results and Discussion

Since the undisputed survey requirement, the maximum number of respondents is 400 respondents based in Israel on Rahmawati (2019). As a result of the time constraints, the total number of respondents in this study is 116, with 58 questions, all of which are accurate based on the validity test with a degree of significance of 0.05. Factor analysis is used to find the relationship between several independent variables, which is then formed by several factors that contain several variables. The purpose of factor analysis is Data summarisation and data reduction. Data summarisation is carried out to identify the relationship between variables by performing a correlation test. In contrast, in data reduction, it is carried out after correlation, namely the process of making factors consisting of several analysed variables.

Demographic Background

Based on Figure 2, the majority of the respondents are Gen Y (Millennials) and Gen Z. According to Kasasa (2020), Gen Y's current age consists of people from 25 – 40 years old, and a small little of them are Gen Z, who are below 25 years old. This will affect the behaviour when considering choosing a property product. Brand loyalty is lower among millennials than among past generations. They like to look at products and functionality first, and they don't have much time for inefficient or bad service. Hence, the rest consist of Gen X (41 – 56 years

old) and Baby Boomers (57 – 75) years old. Furthermore, the respondents are dominated by males. As shown in Figure 3, 53% of respondents are male, and the rest are female.
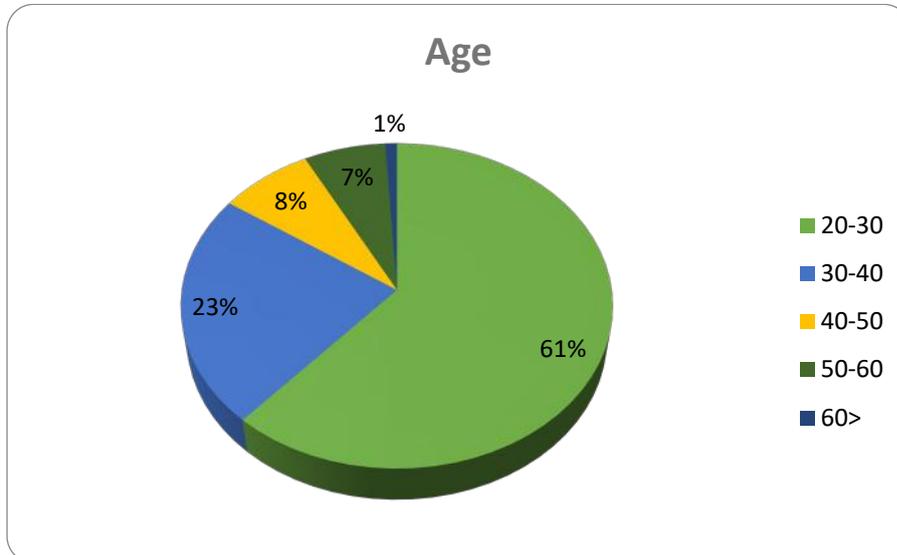

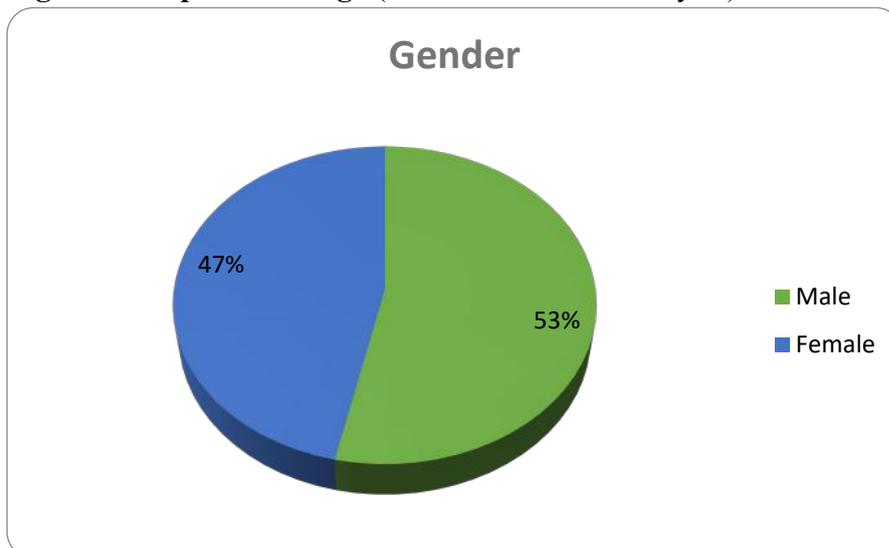**Figure 2 Respondents Age** (Source: Author's Analysis)

Figure 3 Respondents Gender (Source: Author's Analysis)

The most important thing is the respondents' domicile since the research is focused on citizens in the Bodetabek area. As seen in Figure 4, most respondents are from Bogor, followed by 31% from Bekasi, and 21% from Tangerang and the least are from Depok.
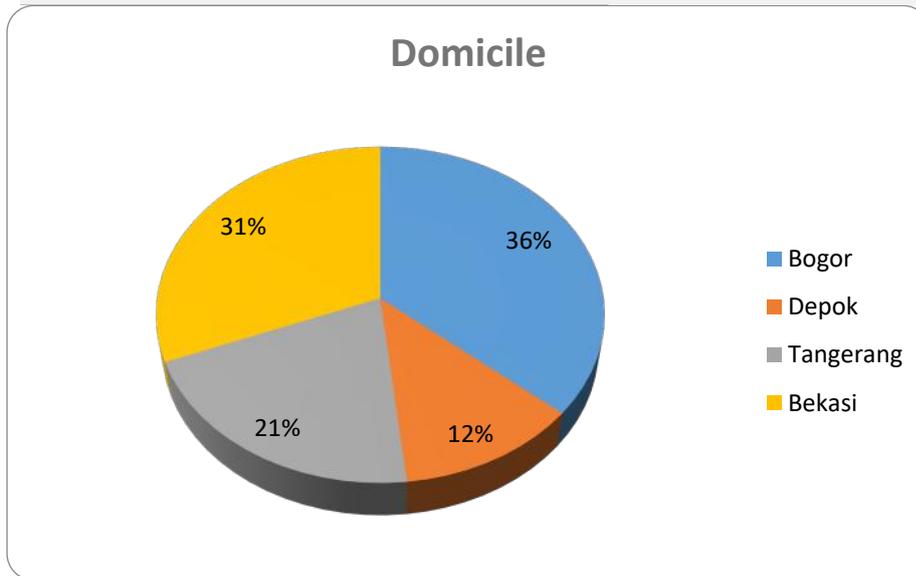
Figure 4 Respondents Domicile (Source: Author's Analysis)

Activities after the Covid-19 Pandemic

The Covid-19 pandemic had changed many people's behaviour. This research was conducted by the questions adapted from a previous study by Dahiya, Kapil & Potia (2020). There are 11 relevant for this research activities asked regarding the respondents activities after the pandemic. Based on Figure 5, the top five most frequent activities are online streaming, restaurant/grocery delivery, distance learning, virtual conference, and private video chat. This is similar to the previous research, as shown in Figure 6. Most people tended to spend more of their time virtually.
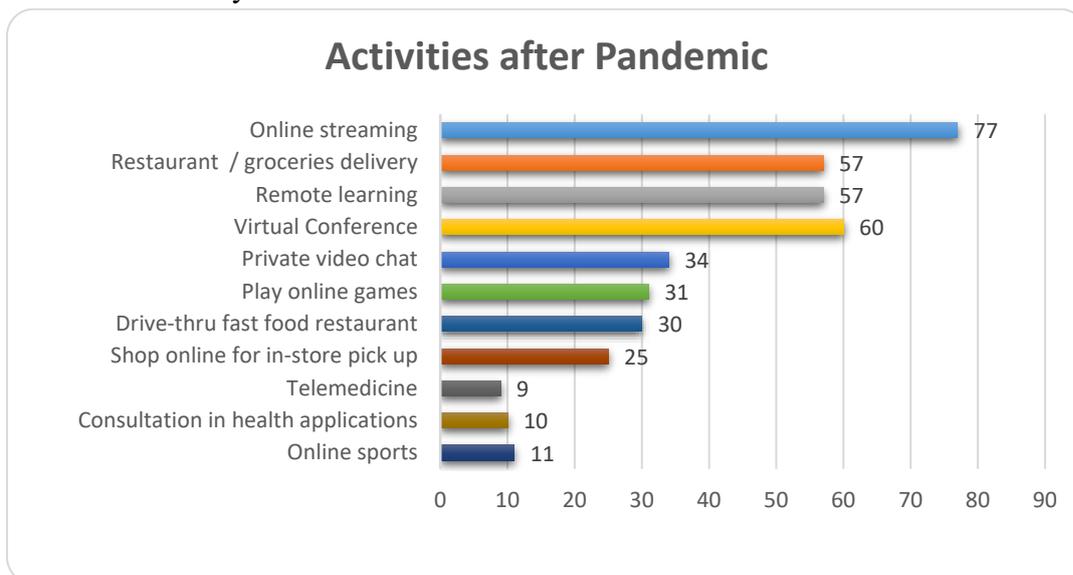

Figure 5 Respondents Activities after Pandemic (Source: Author's Analysis)

Online streaming and grocery and restaurant delivery recruited the most new and increased users compared to other at-home alternatives
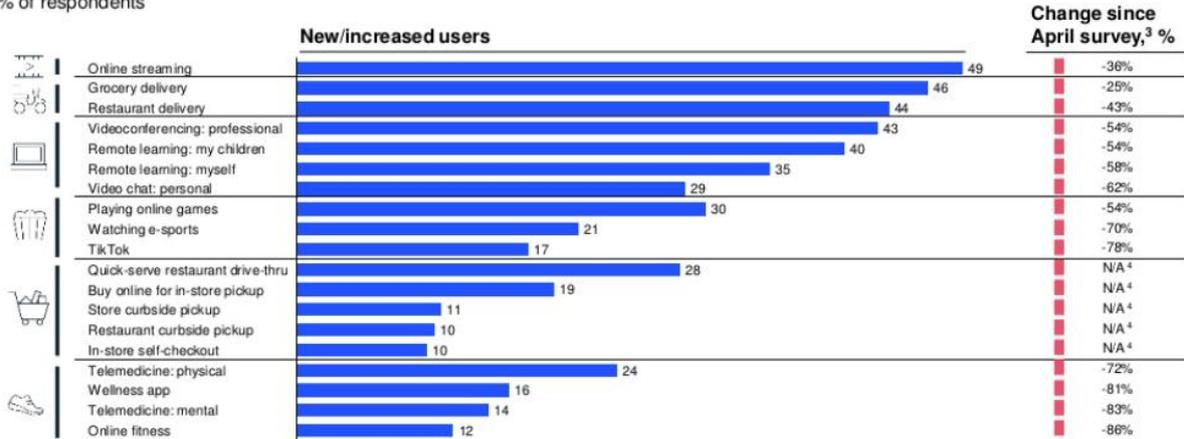
Figure 6 Previous Research on Activities after Pandemic *(Source: Dahiya, Kapil & Potia, 2020)*

The next question asked was regarding the respondents' intention or behaviour after the pandemic. Since their behaviour has changed thus, so have some intentions. There are four apposite question to uncover the respondents' intentions after the pandemic. This question also can be compared with the study conducted by Dahiya, Kapil & Potia (2020). In Figure 7 below, it is seen that the people in Bodetabek tend to find a way to save money when they are shopping, followed by the intention of becoming more aware of where to spend their money. The results are somewhat different from the previous research shown in Figure 8, while most people will be becoming mindful or aware of spending money rather than seeking other ways to save money when they are going shopping.
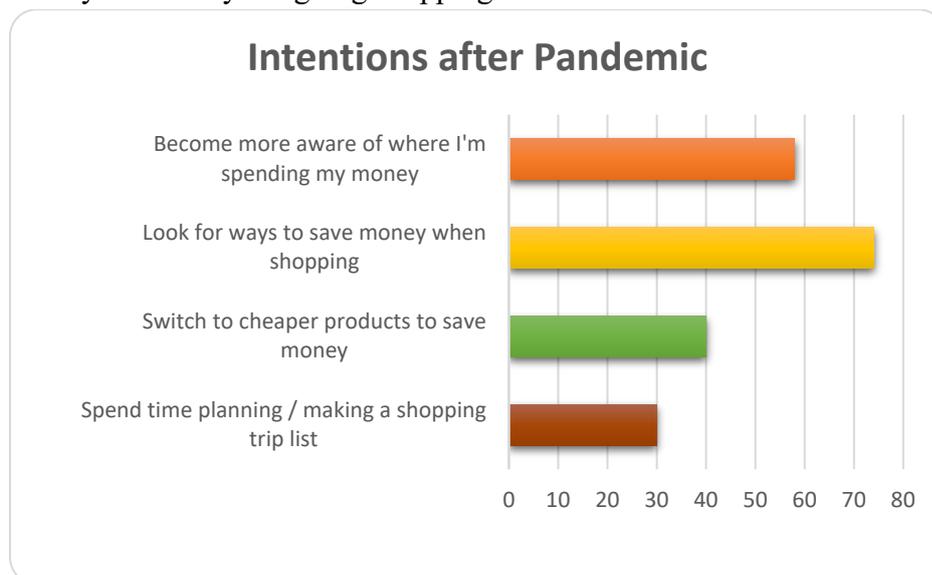

Figure 7 Respondents' Intentions after Pandemic (Source: Author's Analysis)

Indonesians are becoming more mindful of how they spend their money and are increasingly looking for ways to save

Change in shopping mindset since COVID-19[1]
% of respondents

Legend: ■ Doing less ▢ Doing about the same ■ Doing more

100%

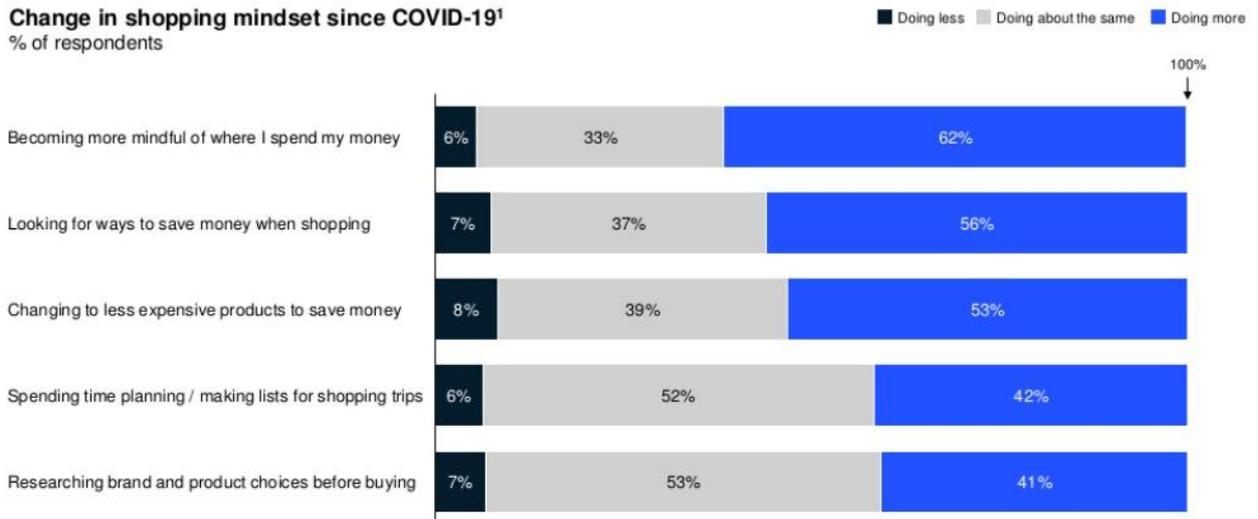|	Doing less	Doing about the same	Doing more
Becoming more mindful of where I spend my money	6%	33%	62%
Looking for ways to save money when shopping	7%	37%	56%
Changing to less expensive products to save money	8%	39%	53%
Spending time planning / making lists for shopping trips	6%	52%	42%
Researching brand and product choices before buying	7%	53%	41%

Figure 8 Previous Research on Intentions after Pandemic (Source: Dahiya, Kapil & Potia, 2020)

This research also asked some questions regarding the respondents' audacity to go outside their home during the pandemic. As seen in Figure 9, most of the respondents are worried about doing some outdoor activities, but only to a low degree. Nevertheless, only a small number – six% in total – of those who are not worried about doing outdoor activities. Undoubtedly, 55% of the respondents are still worried about going on vacation, and 39% of them are worried but not too afraid. The rest are not fearful at all about going on vacation. Given the situation, this may be caused by the government's regulation concerning social distancing. In reaction to the emergence of a new Covid-19 version, the new policies, called the implementation of public activity restrictions (PPKM), are part of a ministerial directive for various provincial administrations in Java and Bali. Much of Java and Bali are scheduled to implement these new mobility restrictions from January 11 to 25, as per Home Ministerial Instruction No. 1/2021, which was later reinforced by a circular from the national COVID-19 task force leader (Pangestika, 2021).
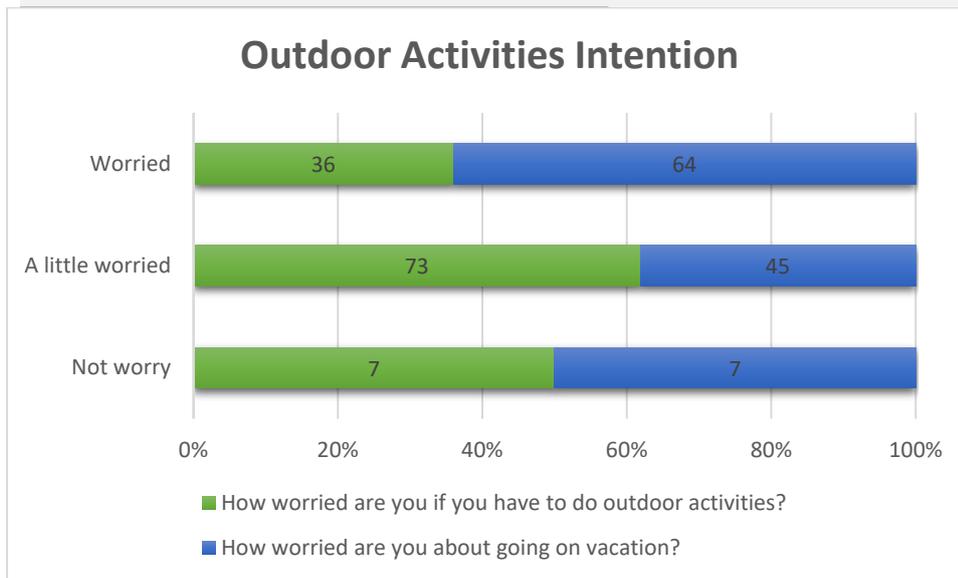
Outdoor Activities Intention

Figure 9 Respondents on Outdoor Activities Intention (Source: Author's Analysis)

Financial Conditions and Buying Behaviour after the Covid-19 Pandemic

As a matter of the new world condition, especially social distancing, many people's financial condition and income have been affected. According to Figure 10, for 47% of respondents their income is almost the same. Even so, the second majority response showed that their income was decreased. Also, there is only 10% of them who had their income increased. Given the condition, there are changes in their expenses and savings. Figure 11 shows an increase in 21% of the respondents for expenses and savings. However, the majority of their behaviour is remaining the same. Furthermore, almost half of the respondents believe that their financial condition affected them for more than one year.
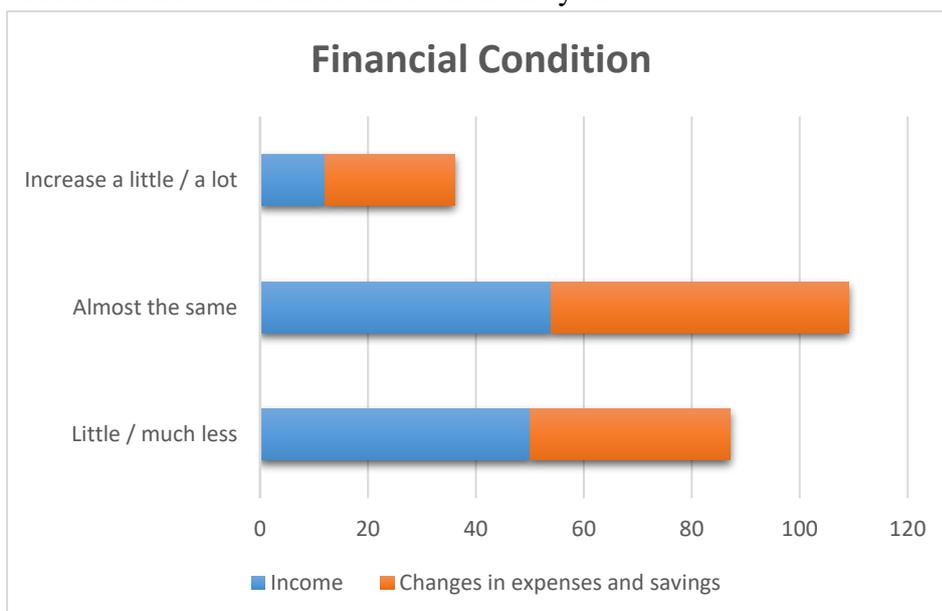

Financial Condition

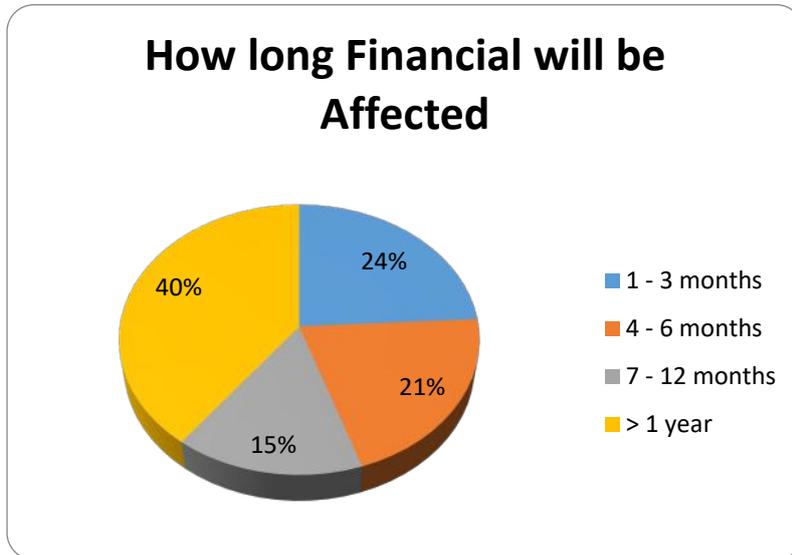**Figure 10 Respondents Financial Conditions** (Source: Author's Analysis)

Figure 11 Financial Condition after Pandemic (Source: Author's Analysis)

Consequently, there was also a change in the respondents' buying behaviour. As seen in Figure 12, most of the respondents buying behaviour remains the same. However, they have mostly decreased demand for fashion products due to working from home regulations, resulting in their lack of need to be dressed every day. Also, 37% of all respondents experienced an increase in buying food and beverages.

Figure 12 Respondents Buying Behaviour (Source: Author's Analysis)

KMO-Bartlett's Test & Measuring of Sampling Adequacy (MSA)

KMO and Bartlett's test was conducted with the initial hypothesis. The sample was not sufficient for further analysis. A very small P-Value was obtained with a significance level (α) = 5% so that the initial hypothesis was rejected. It is concluded that the sample is sufficient for further analysis or 89.438% (KMO value). These factors can explain the variance. All questions can be continued to the next test because all variables already have an MSA value> 0.5. At this stage, a test of the adequacy of the sample that has been taken is carried out for further analysis or not. Testing this sample's adequacy needs to be done to see whether several factors can be formed from the available data.

With a significance level (α) = 5%, H0 can be rejected if the P-Value (probability not to reject H0) is smaller than α. Meanwhile, MSA measures the adequacy of each variable to be analysed with a value of 0-1 with the following details:

- MSA = 1: The variable can be predicted to fall into which factor and without error by other variables;

- MSA> 0.5: Variables are still in the predictable category and are further analysed;

- MSA <= 0.5: Variable cannot be predicted and is analysed further.

Communalities

This stage is used to see the amount of variance (bias in percentage) that can be explained from a variable on the formed factors later. The greater the value of commonalities in a variable, the greater the variance described in that variable, meaning that most of the variance in that variable can be explained in the later formed factors. The value extraction shows how much variance of a variable can be explained by the factors that will be formed.

Table 1 Communalities Result

(Author's Analysis)

Question	Extraction	Question	Extraction
P30	0,598484	P46	0,533608
P31	0,766725	P47	0,623844
P32	0,677508	P48	0,774861
P33	0,695712	P49	0,717399
P34	0,662823	P50	0,697515
P35	0,743836	P51	0,627908
P36	0,711485	P52	0,737429
P37	0,589548	P53	0,607298
P38	0,771267	P54	0,645166
P39	0,719897	P55	0,648048
P40	0,713894	P56	0,628089
P41	0,616732	P57	0,63086
P42	0,64127	P58	0,716218
P43	0,779893	P60	0,686715
P44	0,611713	P61	0,535037
P45	0,68358		

Total Variance Explained & Scree Plot

At this stage, the number of factors that can later be formed by paying attention to the eigenvalue will be seen. Pay attention to factors that have eigenvalues > 1 because eigenvalues of <1 are considered unable to explain the variables that enter these factors. Then calculate the amount of variance that can be explained by the factors having eigenvalues > 1. It can be seen that six factors have eigenvalues > 1, so it can be said that the factors formed from this analysis are six factors. There are 31 variables included in the factor analysis. With each variable with a variance of 1, the total variance is 31 x 1 = 31. Then the 31 variables are summarised into six factors with each variance which can be explained as follows:

$$Factor\ Variance\ 1 = \frac{12,674886}{31} \times 100\% = 40,8867\%$$

$$Factor\ Variance\ 2 = \frac{2,211640}{31} \times 100\% = 7,1343\%$$

$$Factor\ Variance\ 3 = \frac{1,882365}{31} \times 100\% = 6,0721\%$$

$$Factor\ Variance\ 4\ = \frac{1,61583}{31} \times 100\% = 5,2124\%$$

$$Factor\ Variance\ 5 = \frac{1,315362}{31} \times 100\% = 4,2431\%$$

$$Factor\ Variance\ 6\ = \frac{1,094301}{31} \times 100\% = 3,5300\%$$

Factors Analysis

This stage is the final stage in factor analysis. At this stage, all variables are grouped based on the magnitude of the correlation between these variables on the established factors. The Component Matrix table explains the distribution of 31 variables on the six existing factors. In contrast, the table numbers are the loading factor or the size of the correlation between a variable with factors 1, 2, 3, 4, 5, and 6 because there are still variables that do not have significant differences.
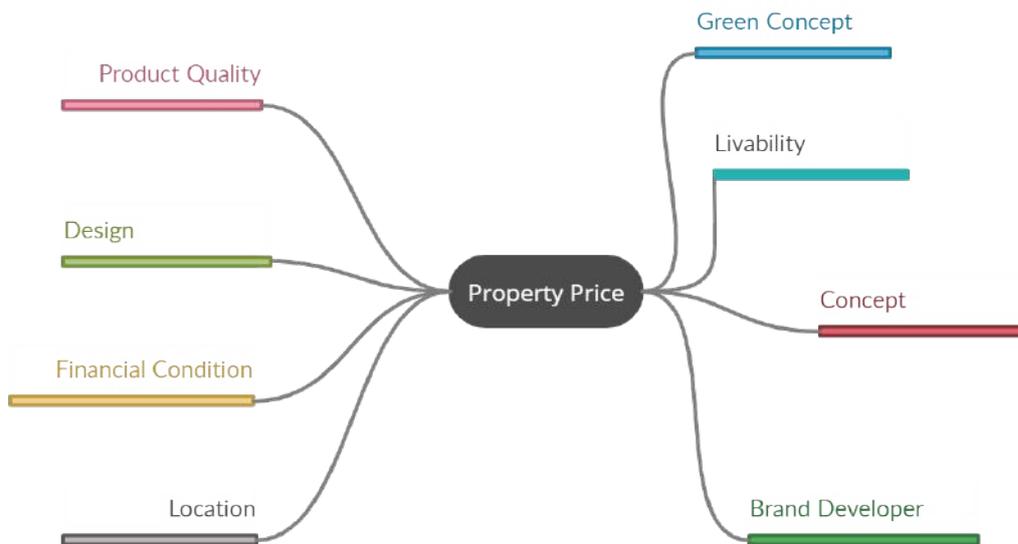

Figure 13 Result of Attribute Categories
(Author's Analysis)

The analysis shows that there are two more categories added compared with the previous study conducted by Rahadi (2015). This happened due to questions regarding the developer's promise to maintain product quality. The product being offered has a green concept that correlates with <0.5, so it is necessary to form separate factors. Thus, to make a better model, the two additional factors will be reduced and yield the final six categories similar to the previous study.

Figure 14 Attributes Influencing Housing Product Price in Indonesia
(Author's Analysis)

Therefore, from Figure 14, we can see each attribute's detail factor affecting property product price. There are some differences between the previous study conducted by Rahadi (2015). The first one is on the Physical Qualities category. The recent research shows that there is no rooftop design as the part of it as written on Rahadi (2015) in Figure 15, however there are some additional factors like floor plan layout, brand developer quality, and product conformity to the category. The next one is on the financial condition. There is no alternative payment scheme included in the category. However, the function as a property product is categorised in financial condition attribute.

Similarly, in this recent study, some differences in the location category focus only on the literal location and its importance to the respondents. Then the liveability and concept attributes have different factors from the previous study. This happened due to the preferences of the respondents in seeing a property product. Finally, for brand attribute, there are slight differences. The recent study shows that rooftop design categorised as a brand while in the previous study was not.

Figure 15 Previous Study (Rahadi, 2015)

Variance Inflation Factor

This value is used to see how much other independent variables influence the variance of an independent variable. Other variables strongly influence the greater the value, the dependence on changes in the variance value of an independent variable, so it can be said that the variable will increase if it correlates with other variables, as seen in Table 2.

Table 2 Variance Inflation Factor
(Author Analysis)

Independent Variable	VIF Value
Factor 1	127,960
Factor 2	188,761
Factor 3	109,970
Factor 5	81,768
Factor 6	42,740

Correlation Coefficient

Correlation coefficients can be calculated to determine how closely two variables are related. In the context of multicollinearity, VIF is very sensitive to the relationship between independent variables. Even though there is a weak correlation between the two variables, the two variables are still considered to have a multicollinearity effect.

Table 3 Correlation Coefficient
(Author's Analysis)

	Factor 1	Factor 2	Factor 3	Factor 5	Factor 6
Factor 1	1	0,6405	0,5743	0,4337	0,3733
Factor 2	0,6405	1	0,6354	0,5807	0,3206
Factor 3	0,5743	0,6354	1	0,4396	0,3762
Factor 5	0,4337	0,5807	0,4396	1	0,2944
Factor 6	0,3733	0,3206	0,3762	0,2944	1

Conclusions

Since the undisputed survey requirement, the maximum number of respondents is 400 respondents based in Israel on Rahmawati (2019). As a result of the time constraints, the total number of respondents in this study is 116, with 58 questions, all of which are accurate based on the validity test with a degree of significance of 0.05. Based on the results, most of the respondents are Gen Y (Millennials) and Gen Z. Furthermore, the 53% of the respondents are male, and the rest are female. The most important thing is the respondents' domicile since the

research is focused on citizens in the Bodetabek area. The majority of respondents are from Bogor, followed by 31% from Bekasi, and 21% from Tangerang and the least is from Depok.

The Covid-19 pandemic had changed many people's behaviour. This research was conducted by the questions adapted from a previous study by Dahiya, Kapil & Potia (2020). The question asked is regarding the respondents' intention or behaviour after the pandemic. This research also asked some questions regarding the respondents' audacity to go outside their home during the pandemic. As a matter of the new world condition, especially social distancing, many people's financial condition and income have been affected. Given the condition, there are changes in their expenses and savings. Consequently, there were also changes in the respondents' buying behaviour. Most of the respondents buying behaviour remains the same. However, for fashion products, mostly there has been a decrease due to working from home regulations, resulting in not needing to be dressed every day.

It is concluded that the sample is sufficient for further analysis or 89.438% (KMO value). These factors can explain the variance. Testing this sample's adequacy needs to be done to see whether several factors can be formed from the available data. With a significance level (α) = 5%, H0 can be rejected if the P-Value (probability not to reject H0) is smaller than α. Meanwhile, MSA measures each variable's adequacy to be analysed with a value of 0-1. This stage is used to see the amount of variance (bias in percentage) that can be explained from a variable on the formed factors later. The greater the value of commonalities in a variable, the greater the variance described in that variable, meaning that most of the variance in that variable can be explained in the later formed factors. At this stage, the number of factors will be seen that can later be formed by paying attention to the eigenvalue. Pay attention to factors that have eigenvalues > 1 because eigenvalues of <1 are considered unable to explain the variance of the variables that enters these factors. Then calculate the amount of variance that can be explained by the factors having eigenvalues > 1. This stage is the final stage in factor analysis.

The analysis shows that there are two more categories added compared with the previous study conducted by Rahadi (2015). There are some differences between the previous study conducted by Rahadi (2015), the first one is on the Physical Qualities category. The recent research shows that there is no rooftop design as the part of it as written on Rahadi (2015) in Figure 15, however there are some additional factors like floor plan layout, brand developer quality, and product conformity. The next one is the financial condition. There is no alternative payment scheme included in the category. However, the function as a property product is categorised in financial condition attribute. This value is used to see how much other independent variables influence the variance of an independent variable. Other variables strongly influence the greater the value, the dependence on changes in the variance value of an independent variable, so it can be said that the variable will increase if it correlates with other variables, as seen in Table 2. Correlation coefficients can be calculated to determine how closely two variables are related. In the context of multicollinearity, VIF is very sensitive to the relationship between independent variables.

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