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## HOUSING PREFERENCES OF FULL NEST 1 LIFECYCLE STAGE CUSTOMERS IN RESPONSE TO THE PANDEMIC

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### ABSTRACT

*The purpose of this study is to define customer preferences for housing, especially customers who belong to the Full Nest 1 group in a family's life cycle. The subject examined in this study is focused on interior design and architecture industry in Surabaya, East Java. The application of new regulations as a response to the pandemic; often dubbed 'New Normal,' several changes are to be made regarding client interaction and project management. This study uses a quantitative approach, in which changes in customer preferences are obtained through interviews with customers, prospective customers, experts, as well as marketing and development teams in order to narrow down factors that are considered a priority in this tipping point. Result shown that type and design of house, security, distance to shopping districts and maximum loans are the top housing preference for full nest 1 lifecycle stage customer in response to the pandemic.*

### Keywords:

*Life Cycle The Fullnest , Customer Preferences, Interior Design Services, Architectural Services, Post COVID-19 Pandemic*

### ABSTRAK

Penelitian ini bertujuan untuk mengetahui preferensi pelanggan terhadap jasa desain interior, khususnya kelompok *Life Cycle The Fullnest 1*. Objek yang diteliti dalam penelitian adalah industri desain interior dan arsitektur di Surabaya khususnya. Pengaruh Pembatasan Sosial Berskala Besar (PSBB) tentu tidak hanya berdampak pada operasional saja, namun juga perubahan preferensi terhadap kebutuhan pengguna rumah tinggal. Penelitian ini menggunakan pendekatan *mix-method*, yang mana perubahan preferensi pelanggan di dapatkan melalui wawancara dengan pelanggan, calon pembeli, expert dan marketing untuk mendapatkan faktor-faktor yang dipertimbangkan di perubahan era ini. Hasil dalam penelitian ini menunjukkan bahwa tipe dan desain rumah, keamanan, jarak ke pusat perbelanjaan dan maksimal pinjaman mejadi pertimbangan utama dalam pemilihan rumah pada kelompok *Life Cycle The Full Nest 1* dalam merespon pandemi.

### Kata Kunci:

*Life Cycle The Fullnest 1, Preferensi Pelanggan, Jasa Interior Desain, Jasa Arsitektur, Paska Pandemi COVID-19*

## **Introduction**

The construction service industry is one of the industries that could be an indicator to measure the economic development of a nation. However, the growth and ongoing processes of a business dealing with architectural and interior consultations in Indonesia is also affected by several external and internal factors (Amin et al., 2018). The state of macroeconomics is one such external factor that may have a significant impact in this industry (Suleman et al., 2020), while the internal factors that affect an architectural and design bureau are the business' management system and the competence of its human resource management. (Suleman et al., 2020)

During the year of 2020, there has been a major global event which was the global outbreak of COVID-19. This disease is caused by a virus which is an evolved type of Coronavirus that affects both humans and animals. This virus usually affects the respiratory system. The COVID-19 is specifically a new strain which was discovered in Wuhan, Hubei, in China at the end of 2019 (Chen et al., 2020). This virus has then spread widely across the globe, causing a global pandemic that runs to this very day.

The spread of COVID-19 has greatly affected the construction sector, in which the architecture and interior industry are a part of. Before the pandemic, many architects and interior designers often worked side by side, as the work involved a lot of physical interaction, often resulting in multiple people grouping in several places (Comber, CEO of a large interior agency in England, in a 2020 interview). However, ever since the worldwide application of social distancing; also referred to as physical distancing, many aspects of work in the architecture and interior have turned obsolete. Due to this, many professionals in the industry need to adapt to new regulations and find ways to continue working.

With the COVID-19 pandemic, social distancing has become a necessity, pushing many employees to work from home instead. Multiple researches done in multiple countries also indicate that many employees, from full-timers to part-time employees would like to maintain remote work even post-pandemic (Mungkasa, 2020). It seems that remote work is likely to stay even after the pandemic.

With this in mind, multiple interviews have been hosted regarding the changing preferences of residents of Surabaya. A total of 10 interviews have been carried out, with interviewees that range from professional architects and interior designers, property marketing professionals, as well as their clients and prospective clients that belong in the Full Nest 1 Family life cycle stage. With this, it is found that the client's priorities right now lie in the possibility of investment, the budget and payment plan of a property, its environment, space and design of the property.

From this information, it is possible to anticipate what changes need to be made when dealing with property businesses. With the widespread scheme of remote work, it will be necessary to make changes in a home in order to accommodate this. Several structures and room plans may also be adjusted due to changes in human traffic (Mungkasa 2020). With the rising numbers of people doing remote work from home, many Indonesians also spend more time at home or realize the need to have a personal space or their own houses. According to a survey run by rumah.com titled *Consumer Sentiment Study*, Semester II 2020, it was written that 34% of all respondents are looking to buy their own house, while 25% respondents are looking to renovate and change certain parts of their homes to accommodate changes around them.

**Figure 1 Consumer Sentiment Study**



Source: Rumah.com (diakses September 2020).

Other than that, full time remote employees also tend to care less about the distance between their homes and workspace, which in turn pushes urban sprawl.

This phenomenon may be an opportunity for interior design agencies to market themselves, and that is why this research is needed in order to narrow down and understand the new preferences of costumes, especially for people in their productive period, usually aged 20 to 40, currently dubbed Millennials (Statistics Indonesia, 2020).

**Table 1. Indonesia's Population According to Age Groups and Gender, 2019**

Kelompok Umur Age Group	Jenis Kelamin		Jumlah/Total
	Laki-Laki/Male	Perempuan/ Female	
(1)	(2)	(3)	(4)
0-4	12,044,8	11560,1	23604,9
5-9	12234,2	11739,7	23973,8
10-14	11824,8	11234,4	23075,1
15-19	11406,2	10888,0	22294,2
20-24	11167,6	10750,0	21917,6
25-29	10690,9	10537,1	20582,2
30-34	10320,4	10261,8	20265,8

35-39	10057,2	10207,6	20265,8
40-44	9679,1	9687,6	19366,7
45-49	8876,6	8817,8	17694,3
50-54	7669,2	7739,0	15438,1
55-59	6314,8	6435,0	12749,8
60-64	4895,1	4923,1	9818,2
65-69	337,5	3394,3	6731,8
70-74	2027,6	2357,3	4384,9
75+	2080,7	2886,4	4967,0
Indonesia	134657,6	133416,9	268074,6

Source: Statistics Indonesia, Projection of Indonesian Population 2010-2035

According to research done by Wells and Gubar (Wells & Gubar, 1966) within a concept called the *Family Life Cycle* lies several stages that most families go through. In each stage, the family goes through a change in priorities and needs that affects their consuming pattern. This life cycle is divided into six stages which are:

**Table 2 Family Life Cycle**

Family Life Cycle (FLC)	Description
Bachelor, young single	Young Bachelors
Newly married couples	Young couples with no dependents
The full nest 1	Young couples with dependents
The full nest 2	Older couples with dependents
The empty nest	Older couples with no more dependents
The solitary survivors	Widowed

Source: Author (2021)

By understanding this life cycle, and in order to narrow down the research scope, this research will focus on and explore "The Housing Preferences of Full Nest 1 Lifecycle Stage Customers in Response to The Pandemic."

## Literature Review

### A. Previous research

Some of the previous studies that were used as the base of this study are as follows:

**Table 3. Previous Research and its Result**

Previous Research	Research Result
Key consumer behavior thresholds identified as the coronavirus outbreak	Because this research focuses on customer's behavior and habits targeted at grocery shopping,, it is possible to infer data which may draw the attention of an interior designer, such as; the type of consumables customers prefer and how much they supply since the habit of eating outside has been discouraged, as well as the rise of online markets and shopping services as people are discouraged from leaving the house too often in order to maintain an acceptable physical distance during the pandemic.

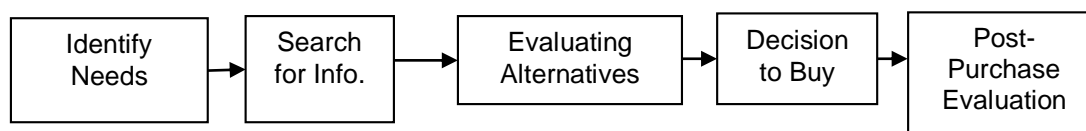
Investigating factors affecting holiday home purchases in Greece		Factors that the market prioritize include: design, location, investment potential, socio-economy, infrastructure
<i>Preferensi Masyarakat tentang Lingkungan Perumahan yang Ingin Ditinggali</i>		5 aspects that affect a client's preference of a neighborhood: Design, location/access, environment (means and infrastructure), environment, safety and comfort, property, pricing and regulations.
<i>Pengaruh Family Life Cycle Dalam Keputusan Memilih Desain Rumah Tinggal dan Lingkungan</i>		Discriminant technique. Group preference according to family life cycle. Relevant factors: design, distance, environment, property, pricing and finance.
Priority of Structural Housing Attribute	Preferences:	5 dimensions to consider: Information technology, blueprint, exterior, and environment.
Identifying Customer Perception		This research is relevant in order to find the preferences of prospective clients in regards to properties and houses.

Source: Author (2021)

## B. Buying Decision of Interior Services

The decision to purchase for consumers; who are also often referred to as clients, in order to purchase a product or service are often done with careful deliberation and thought. A research done by Kotler and Armstrong also stated that a customer's buying decision may also be affected by certain marketing stimuli which affects a customer's behavior and final decision to purchase (Kotler & Armstrong, 2018)

For a business that offers services, the buying decision of a client is derived from 7 factors, often called 7P, or *marketing mix*, which are; *Product, Price, Place, Promotions, People, Process, Physical Evidence* (Kotler, 2008). Outside of those stimuli, there are also other factors that may affect the consumer's behaviours, such as; the economy, technology, politics and culture. The 7 factors; the marketing mix, are something that a business will have control over. During the decision making process, there are two (2) types of consumers; B2B and B2C. The decision making process for these two types of transactions will be different. In a business to business (B2B) relationship, purchases are made through a formal organisation that states their necessity for a certain product and/or service. The process involves identifying, evaluating and picking between multiple options and alternatives (Kotler, 2012). On the other hand, in a business to client transaction, (B2C) the decision is first made when the client realizes they want or need something. Consumers go through several stages of deliberation which ends with a post-purchase evaluation. Diagram 1.0 reveals the five (5) stages of a customer's purchasing decision (Kotler & Armstrong, 2018).

**Figure 2 Purchasing Decision**

### C. Family Life Cycle

Soeharso and Kusumowidagdo, (2016) has used the concept of a family's life cycle in their research, which initially was popularized by Wells & Gubar (1966), and again by Kapinus & Johnson (2003). These stages are as the following:

1. *Bachelor stage*
2. Newly married couples, consisting of couples with no dependents
3. *The full nest I*, which consists of young couples with dependents
4. *The full nest II*, which consists of older couples with dependents
5. *The empty nest*, which consists of older couples with no dependents
6. *The solitary survivors*, widowed persons

Using this concept in order to narrow down the research subject, It has been decided that this research will focus on newly married couples who are entering the first full nest stage, as these are the most likely customers to be looking for a new home. Taking into consideration their extra needs, it is also possible to know their considerations when building, buying or renovating their home in this post-pandemic scene.

### D. Factors that Affect a Customer's Choice of Property and Neighborhood

Factors that affect a customer's choice of property and neighborhood can be divided into two groups; external and internal factors (Soeharso & Kusumowidagdo, 2016). External factors are factors that are affected by the economy, population, employment, finance, location, transportation, as well as environment. These things hold a significant influence on a prospective client's assessment of an urban property. On the other hand, internal factors such as property size, accommodation, condition, design, age, type and boundaries can be set and measured individually.

Linked to these internal factors, Adair et. al (1996) has done a research on the theoretical and factual assessment by customers through two steps. The first step is an analysis using American and British Valuation, as well as econometric literatures. The second step is a direct analysis on a neighborhood, consumers and an evaluator. From this research, 55 variables have been inferred and categorized into 4 factors; property, environmental, distance and finance.

### **1) Property Variables**

The Variables of a property can be divided into two sub-categories. The first seven being quantitative. They are; property size, number of common rooms, number of bedrooms, number of bathrooms, garage size, and lot size. These variables are used as primary data that is regularly measured and evaluated, whether manually or automatically. On the other hand, qualitative variables are often subjective and are less often used.

### **2) Distance Variables**

The distance variable of a property is one form of quantitative data. Measurement is based on simple linear distance as well as time.

### **3) Environmental Variables**

Environmental variables are based on the characteristics of the neighborhood's environment in regards to its physical and social conditions. Four initial conditions, including; environmental state, neighborhood quality and the aesthetics of the property are considered qualitative measures.

Several social characteristics such as level of employment, education and earning of the neighborhood, as well as security and level of education and diversity may also affect the perceived environmental value.

### **4) Financial Variables**

Financial Variables reflect the state of the market as well as macroeconomics. These variables affect how likely it is a client will decide to purchase a home.

According to the research above, this variable would be quite interesting to explore in order to find out the preferences of young couples in Surabaya regarding the purchases of homes post-pandemic.

## **Metode**

This research was done using a questionnaire that was distributed to several clients that have or have plans to hire an interior consultant within Surabaya in order to collect data. There are a minimum of 30 respondents who were willing to fill in the questionnaire which will later be processed using the conjoint method using SPSS which aims to know the level of priority of each variable and a combination of a set of variables from the respondents.

However, with exploratory research, not all the evaluation variables of residential properties will be used. Consumer preferences towards a home's attribute are as the following; property, distance, environment, and finance, with 23 attribute levels as shown below:

**Tabel 4 Attributes and Levels**

Attribute	Level
Property	1. Building and Lot size 2. Type/Design of property 3. Number of beds 4. Garage 5. Lawns
Distance	1. Distance to Hospital 2. Distance to shopping districts 3. Distance to workplace
Environment	1. Good Neighborhood Management 2. Open space for lawns 3. Noise Level 4. Neighborhood Facilities 5. Security Measures
Finance	1. Maximum Loans 2. Mortgage 3. Property Value

Source: Author (2021)

Combinations of these attributes are formed using the full profile procedure and SPSS Generate Orthogonal Design. There are five (5) attributes for property related categories, three (3) for distance, five (5) for environment and three (3) for finance. For this method, they will be designed using the SPSS 26.00 software, and from that, 25 stimuli have been acquired using fractional factorial.

**Analysis Techniques**

Conjoint analysis is usually utilized for research that is linked to the perception of a person, such as social marketing, politics or psychology. In the marketing section, conjoint analysis is often used to figure out the preferences of a consumer over a product. Hai et. al (2010) says that this type of analysis is a multivariate technique that is used to understand how respondents develop preferences to a certain object

The base model used for conjoint analysis can be formulated mathematically in the following way:

$$U(x) = \sum_{i=1}^m \sum_{j=1}^{k_i} a_{ij} x_{ij} \dots\dots\dots(1)$$

$U(x)$  = All utilities of an alternative

$a_{ij}$  = utility level to – j attributed to – i

$k_i$  = number of levels attributed to - i

$m$  = number of attribute

$x_{ij}$  = is 1 if attribute i and the attribute level j exists

is 0 if attribute i and the attribute j doesn't exist



The result from experimentation using conjoint analysis shows the total satisfaction of respondents from multiple attributes. The priorities of each attribute is defined by the difference between the highest and lowest values that can be formulated as the following:

$$I_i = \{\max(a_{ij}) - \min(a_{ij})\} \dots\dots\dots(2)$$

with

$I_i$  = number of priority of attributes to – i

The priority is relative from one attribute to another and can be formulated as the following:

$$W_i = \frac{I_i}{\sum_{i=1}^m I_i} \times 100\% \dots\dots\dots(3)$$

**Result And Discussion**

**Result**

Within this research, the sampling method used is non-probability purposive sampling method through the distribution of a closed questionnaire manually, in which the criteria of sampling/picking respondents are considered by a few criteria which are listed as the following:

1. Respondents are Permanent Residents or citizens residing in Indonesia
2. Respondents are over 21 years old (Adult)
3. The composition of respondents who are Permanent Residents or citizens who has lived in Surabaya for over 1 year is 30 respondents (100%)
4. Respondents must know a little about Indonesia, especially Surabaya and know their neighborhoods.
5. Respondents are willing to fill in the questionnaire.

The criteria chosen for this research is a result of deliberating on which respondents can give an evaluation and preference regarding homes and properties based on their own knowledge, with hopes that they can answer the questionnaire. The total amount of questionnaires distributed is forty (40) in Surabaya, with an expected return of 30

**Conjoint Analysis Results of All Respondents**

The conjoint analysis results are as the following:

**Table 5 Utilities Seluruh Responden**

		Utility Estimate	Std. Error
Property	Building and Lot size	5.093	.876
	Type/Design of property	5.700	.876
	Number of beds	2.800	.876
	Garage	-6.220	.876
	Lawns	-7.373	.876

Distance	Distance to Hospital	-.311	.611
	Distance to shopping districts	1.189	.611
	Distance to workplace	-.878	.730
Environment	Neighborhood Management	3.353	.876
	Open space and Parks	-5.107	.876
	Noise Level	-3.747	.876
	Neighborhood Facilities	1.200	.876
	Security Measures	4.300	.876
Finance	Maximum Loans	.986	.611
	Mortgage	.459	.611
	Property Value	-1.444	.730
(Constant)		12.536	.484

Source: Output SPSS 26 Processed by The Author (2021)

According to the table above, it shows that most respondents prioritize the type/design of a home when deliberating on purchasing one. The next most prioritized is then the size of the building and lot, and the last being the number of bedrooms. On the other hand, garage and lawn sizes are not as prioritized because by prioritizing the size of building and lot, as well as its type and design any need for a garage or lawn would be fulfilled. On another note, regarding distances, a lot of respondents tend to prioritize distance to shopping centres compared to hospitals or working spaces. From an environmental perspective, most respondents tend to prioritize security, followed by having good neighborhood management, and neighborhood facilities. Respondents tend to not consider noise levels of a neighborhood or open spaces for lawns and parks. Finally, on the financial side, the respondents tend to prioritize the amount of loan that can be taken, followed by the cost of mortgage every month while not many pay attention to the property value, understanding that the value will keep rising annually.

#### Table 6 Importance Values Seluruh Responden

Averaged Importance Score	
Distance	8.001
Environment	34.446
Finance	9.530
Property	48.024

Source: Output SPSS 26 Processed by The Author (2021)

According to the Importance Values listed above, it is possible to see that the respondents prioritize the condition of the property itself, followed by its environment and neighborhood, followed by their financial state, with distance being of least concern.

#### Table 7 Correlations<sup>a</sup> Seluruh Responden

	Value	Sig.
Pearson's R	.977	.000
Kendall's tau	.907	.000

a. Correlations between observed and estimated preferences

Source: Output SPSS 26 Processed by The Author (2021)

From the correlation table above, it is possible to see that the value of Pearson's R is 0.977, with sig.  $0.00 < 0.05$ , while the value of Kendall's tau is 0.907 with sig.  $0.00 < 0.05$ . This shows that between the stimuli given and the opinions of respondents, there is very little difference.

## **Discussion**

### **A. General Picture**

The total number of respondents are 30 people from Indonesia, currently living in Surabaya. 50% of the respondents identify as male and the other 50 females, each counting 15 respondents. Agewise, 5 respondents are in their productive age of 21-30 (16.7%), 15 are in the age group of 31-40 (46.7%), and those over 40 years total an amount of 11 respondents (36.7%). The location of respondents is spread quite equally, with 7 respondents (23.3%) in West Surabaya, another 7 (23.3%) in East Surabaya, 6 respondents (20%) in Northern Surabaya, 5 respondents (16.7%) are from South Surabaya, while the last 5 respondents (16.7%) are from Central Surabaya.

In general, the chosen respondents are generally married, with 13 respondents (43.3%) being a family of two, 6 people (20%) being a family of 1, another 6 people (20%) being a family three, 3 people (10%) with a family of four and two people (6.7%) with a planned family of 5 people.

### **B. House Preferences**

Generally, clients and prospective clients living in Surabaya tend to consider at least three factors regarding the state of a property out of the defined five when picking a home. These factors are; type or design of a property, building and lot size and the number of bedrooms. The second factor that holds the second highest priority tends to be Environmental factors, with respondents usually prioritizing safety measures, which is to be expected since crime rate in Indonesia is still quite high. The third priority tends to be financial factors because these clients and prospective clients would have to budget according to their needs. The least prioritized factor tends to be distance.

### **C. Description of Researched Attributes**

According to the research, the following are the resulting descriptions for each attribute that have been used for this research. They are: Property, Environment, Distance and Finance.

#### **a) Property Attribute**

The first attribute used in this research to identify respondent's preferences on a living space. The property attribute consists of 5 levels, they are; (1) Lot and Building

size, (2) Design and Type of Property, (3) Number of beds. (4) Garage, and (5) Lawns.

According to the data received, it's possible to see that many respondents prioritize the physical design and type of the property. This is also highly influenced by the respondent's modern lifestyle and aesthetics that may have encountered changes during the pandemic. Of course, the size of the lot and building itself only comes second, since each respondent may have their own personal needs or priorities that have to be accounted for. The Property attribute that is also considered quite often is the number of beds, which is often considered by married couples who have planned to have children or increase the number of family members, so this is also often accounted for by the respondents. On the other hand, gardens and a garage are less likely to be prioritized as these two attributes tend to rely on the other attributes, such as environment, distance and finance.

This research result is in accordance with a statement by Syafrina et al., (2018) and Farasa, (2017) who pointed out that the design and type of the property is a big deciding factor when picking a property. A pleasing form that follows function will also give opportunities to improve the house.

#### **b) Environmental Attributes**

The second attribute used in this research is Environment. This attribute is divided into 5 levels: (1) neighborhood management, (2) open spaces and parks, (3) noise level, (4) neighborhood or public facilities, and (5) security measures.

As seen from the data taken from the conjoint analysis, this shows that in general respondents tend to prioritize security measures, followed by neighborhood management and provided facilities. Respondents tend to not mind the noise levels nor prioritize the availability of parks and open spaces.

The result of this research in relation to this attribute will be one of the deciding factors to picking projects or developers, as well as clients in order to more efficiently push forward urban scaping, as well as to push home designs that prioritize those three levels from the Environment attribute.

#### **c) Distance Attributes**

The third attribute is Distance. Distance in this case refers to the distance of a property to certain areas. There are three levels in this attribute, they are: (1) distance to the hospital, (2) distance to a shopping district, (3) distance to workplace. However, it has to be noted that a respondent's preference for distance may also be

limited by other factors such as social or economical background, such as; education and type of jobs, as well as their amount of income.

From the research data above, it is possible to see that out of all the respondents, a majority prioritize minimising the distance between their home and a shopping district. This is in line with the idea that in a post-pandemic era, having access to food and resources is a necessary thing when having to stay inside for long periods of time. People also tend to not mind living away from their workplace since most work right now is done from home, remotely. Many other activities have also moved to online spaces, reducing the need to go to a physical office. The priority of having a hospital nearby lies between the other two levels, in which respondents implore that it is important to at least know the location of the closest hospital, but not as close as a shopping district that they will have to visit often. Some respondents also express reluctance regarding living near a hospital which may be filled with the sick and injured.

With this data on customer preference, it is possible to work together with developers to coordinate and arrange a neighborhood according to the priorities of the customers.

#### **d) Financial Attributes**

The final attribute is that of Finance, defined as the importance of considering a respondent's financial position when picking a home. There are three levels to this attribute: (1) maximum loan, (2) monthly mortgage, (3) property value.

From the research, it is possible to see that respondents tend to be more likely to purchase a home depending on the maximum allowance a creditor can give. Most respondents also take into consideration the monthly mortgage. Respondents tend to not really consider the property value of a home because most respondents tend to think of property value as something absolute, in which the value will increase annually

Understanding the factors stated above may help designers or developers because a client's budget will be a deciding factor in ensuring the purchase of a house in a certain neighborhood.

### **D. Respondent Preferences**

The conjoint analysis is one of the analytic techniques that can be used to determine the preferences according to a the perception of a customer looking to decide to commit to a purchase by measuring the importance and usage of each attribute.

According to the research done, it is possible to see that the most preferred of attributes are ones related to the property's condition itself, especially about the design of the

house and the size of the building and lot. However, equally important is the security measures of the neighborhood as well as the neighborhood management. These two are then supplemented with different and accessible payment methods and how close the property is to shopping districts. Last but not least, many clients will also think about the environment where they are going to live. This is in accordance with a statement made by Syafrina et al., (2018) these aspects cannot be treated as individual factors because the environment in which a house is located is a system that is intertwined with one another.

By examining these preferences, property agents and other people in the industry would need to create changes in order to cater to the design preferences while taking into consideration the taste and needs of a family in the Full Nest 1 stage, comprised of new couples with a dependent, in order to create useful homes that fit the needs and preferences of the clients.

### **E. Managerial Implications**

According to the research, it is known that segmentation for early strategy when marketing the product of a home, and services for residents living in Surabaya which are a part of the Full Nest 1 stage in the family life cycle shows that a majority of respondents in this pandemic especially prioritizes the state of a property and its environment which is in accordance to their financial state, as well as its distance to the closest shopping district.

This preference exists if there is awareness regarding one's needs for a certain product (Kotler, 2016). The customers, who in this case are young couples with dependents, will need homes to accommodate them. In this research, there is a tendency for these clients to prefer homes that are aesthetically pleasant, practical, well-made and functional. This is visible from the priorities of respondents which picked the type and design of a home as the highest priority, which is followed by considerations of size and number of beds. Respondents from all over Surabaya has a preference for a neighborhood with good security, with good neighborhood management and an array of public facilities according to their budget. Distance from the home to fulfill lifestyle needs is also important, especially distance to a shopping district or small, with distance to hospital coming second, as long as the hospital remains relatively accessible when needed.

This research also reveals the combination of levels that respondents tend to pick when picking homes. The first three of the combo of levels that are prioritized by respondents are as the following:

1. Type and design of a property, good security measures, and the distance to a shopping district, and a large limit on loans on purchase.

2. The size of buildings and lot, good neighborhood management, distance to a shopping district, as well as a bigger loan.
3. The number of bedrooms in the building according to family members, public and neighborhood facilities, distance to a shopping district, as well as the amount of monthly mortgage.

The combination of stimuli which the respondents prefer due to their importance when buying a housing may help the researchers gain insight on which attributes are considered important by respondents to help create a service offer, especially for architects and interior designers that will fulfill the preferences of clients residing in Surabaya.

The managerial implications that can be used from this research is as the following:

1. Respondents must agree on the type and design of the house, in accordance to the space they need or the number of rooms within a residence. According to the research done, respondents will prefer a house that can fulfill as many needs as possible. Because of that, there are several steps that can be utilized in order to implement respondents preferences. These steps are as the following:
  - a. Analyzing design trends that are in accordance with the target market's needs and tastes, especially in the age range of 25-35 years old. In essence the millennial population in Surabaya.
  - b. Providing a design catalog that is already adjusted to the current trends in order to give inspiration and educate prospective clients towards their own needs regarding the design and function of a space.
  - c. Understanding the essential needs of a millennial within their homes, especially regarding new habits such as working or studying remotely
2. Respondents want a safe, well managed environment with several neighborhood facilities. In line with Maslow's Hierarchy of Needs (1994), which states that the biggest need of a human is one of safety in a home functions as a shelter for its residents both physically and mentally. Respondents also needs some form of a natural environment in order to give a positive atmosphere and freshness within a neighborhood (Collado et al., 2017). Some things that can be done in order to apply this is as the following:
  - a. Working together with the neighborhood management and developer to ensure safety and good management
  - b. Discussing the needs of residents in order to be able to provide public facilities within the neighborhood.
  - c. Recommending locations that are well managed to the customers.

3. Respondents have a need for better locations and accessibility. According to the data recording the need of residents to be close to certain places, it implies that there are two things related to this. The first one being accessibility to move from one location to another, as well as the instruments to move. Accessibility right now is focused on day to day needs, and that is why the distance between a residential area to a shopping district is an important point to take note of for a designer who needs to pay attention to the needs of their clients. Some ways to apply this includes:
  - a. Picking a location that has an accessible shopping district.
  - b. For developers to work together with investors and other parties to pick a location with accessible services.
  - c. Moving home designs to accommodate remote work by promoting small offices and home offices (SOHO).
4. The financial state of respondents and their buying power Another factor that will affect the preferences of clients when picking a house is their financial state. This is very tightly knit to the budget that they have when picking among multiple competitive prices for homes. However, at the end 2020, the government has introduced a new incentive to lighten the tax on property purchases, enabling the industry to increase sales. According to the preferences found in this research, many clients still put into consideration the maximum loans they can take, as well as the monthly mortgage of a house. Some things that can be implemented to take consider of the above is of the following ways:
  - a. Having contractors or developers work together with designers to apply additional features that will benefit prospective clients, such as getting free design consultation regarding things like *feng shui*, etc.
  - b. Working together with banks in order to ease the loaning process or payment plans for the clients.

## Conclusion

This research was done in order to find out the preferences of prospective clients within the full nest 1 stage of the family life cycle in response to the pandemic. From this, it is possible to conclude several things:

1. Prospective clients who are in the full nest 1 stage prioritizes the aesthetics of the design and type of house, along with its security measures, distance to shopping districts, and maximum possible loans for the purchase.
2. The preferred factors for a house for prospective clients in the full nest 1 category in response to the COVID-19 pandemic are as the following:



**Table 8 Ranking of Combined Preferences of Clients in the Full Nest 1 Stage of the Family Life Cycle in response to the Pandemic**

<b>Rank</b>	<b>Property</b>	<b>Environment</b>	<b>Distance</b>	<b>Finance</b>
1	Type and Design of House	Security	Distance to shopping districts	Max. Loans
2	Type and Design of House	Neighborhood Management	Distance to shopping districts	Max. Loans
3	Type and Design of House	Security	Distance to shopping districts	Monthly Mortgage

Source: Author (2021)

3. From the conclusion above, the hypothesis that states that “there may be a combination of attributes considered important by prospective clients in the Full Nest 1 Stage of the Family Life Cycle during the pandemic” is confirmed to be true.
4. When picking a house, clients in the full nest 1 stage tend to prioritize the state of the property, with the type and design being top in priority, followed by the size of the building and lot. This attribute is combined with the priority for security and neighborhood management. In terms of accessibility, the highest priority lies in having an accessible place to get food and other daily necessities to fulfill needs of everyone at home, highlighted by the pandemic which forces families to stay home for longer..
5. Access to the workplace is no longer a priority in picking a house. This phenomenon happened due to the rise of remote work during the pandemic, moving many activities into online spaces done at each client’s own home.

### **Advice**

Some things that can be done for the people in the industry which this research is related to is as the following:

1. Advice for property developers:
  - a. Make a neighborhood plan which is categorized by their price, with a location where it is easy to access a shopping district and other shops to fulfill household needs.
  - b. Making a concept of a neighborhood that has green open spaces and provides necessary facilities that the residents can use for recreations or other needs.
2. Advice for architects and interior designers:
  - a. Work with developers to design a house that is in accordance with the needs and preferences of the clients, especially by giving space that is necessary for remote work.

- b. *Small Office/Home Office* may become a trend in the future because many people may have gotten used to working remotely which requires changes to be made at home to accommodate.
  - c. Update designs to keep up with global trends related to new habits post-pandemic in order to be able to create new opportunities and educate prospective clients
3. Advice for future researchers:
  - a. Find indicators that shape variables related to design and function.
  - b. Find out if any variables not used in this research may also affect customer preferences.

### Research Limitations

This research has been completed with only using 30 respondents, all with businesses of small or medium size. More samples from different business sizes and industries will give a more applicative and general result.

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