

FACTORS CONTRIBUTING TO HOUSING PROVISION IN SURABAYA: PERSPECTIVES FROM REAL ESTATE DEVELOPERS

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ABSTRACT

Housing is a basic need that impacts the well-being of its inhabitants, and housing provision is key to ensuring equal access to housing. To be successful in the long term, housing provision must meet people's needs and preferences. Surabaya is the second-largest city in Indonesia and has a significant demand for housing. This article presents a part of a larger study analysing housing choice and housing preference compatibility among Millennials in Surabaya. This paper specifically aims to assess factors influencing homebuying decisions prioritised by property practitioners in Surabaya using the Analytic Hierarchy Process. Findings from this research are vital to increasing our understanding of real estate developers' priority in housing provision. Analysis reveals that location is the primary consideration for developers when engaging in real estate development activities in Surabaya. Locations near the CBD and shopping facilities are highly desirable. Before carrying out development activities, developers consider the following key variables: distance and accessibility to the central business district, shopping amenities, healthcare, and educational facilities. Other factors considered are property title and infrastructure, and amenities. Therefore, a key policy priority should be to plan for ensuring



land availability for real estate development near activity centres.

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INTRODUCTION

Housing provision must meet people's needs to improve their well-being and welfare. Housing is a basic need for every humankind, providing more than just a shelter, impacting the well-being of its inhabitants (Ghimire, 2021; Harkness & Newman, 2003; Latif AA, 2015; Mulroy & Ewalt, 1996). When reflecting on the role of housing during the global COVID-19 pandemic, housing is also a crucial determinant of health (Hussaini, 2021). A house acts as a shelter and a quarantine space (Riley et al., 2021; Ryšavý, 2020). Besides that, a house is also often viewed as an indicator of wealth (Aulia et al., 2019; Dharmayanti et al., 2018; Ong et al., 2021; Tashwir, 2021). Besides being a protective investment during a pandemic, numerous studies have shown that homeownership can profoundly affect physical and mental well-being (Ghimire, 2021; Harkness & Newman, 2003; Latif AA, 2015).

Real estate is defined as a man-made place related to set geography meant to hold an activity for a specific period (Graaskamp, 1992). Real estate development is the continual reconfiguration of the built environment to meet society's needs (Munanga et al., 2021). Real estate development is a significant factor in shaping the built environment (Pridaningrum, 2014; Squires et al., 2017). Developers use a large amount of land; therefore, their activities will significantly impact the surrounding environment (Pridaningrum, 2014). Real estate development is a multifaceted business process where several activities start from renovating, re-leasing existing buildings, buying vacant land, and selling developed land to others. The real estate development process involves a consumer group, a production group, and a public infrastructure group (Graaskamp, 1992). The production group consists of several parties, including the government, the private sector, and non-governmental organisations. In Indonesia, the government's role in providing housing is to provide public housing aimed at lower-income households. The private sector, in this case, the developer, provides housing

for various groups, namely the upper-middle class and beyond (Navastara & Navitas, 2012). According to the Minister of The Interior, Housing Development Company or developer is defined as a company that engages in the construction of housing of various types in large numbers on a land area that will constitute a unitary residential environment equipped with environmental infrastructure and facilities (Peraturan Menteri Dalam Negeri, 1974).

Surabaya is the capital city of East Java Province. As the capital city of east java province, Surabaya is the epicentre of east java province's urban population. Around 15 percent of the East Java population resides in greater Surabaya. Currently, around half of the population in Surabaya own the house they live in (Badan Pusat Statistik Kota Surabaya, 2019). The rest live in other arrangements such as renting or living in corporate housing (Badan Pusat Statistik Kota Surabaya, 2019). Real estate procurement in Surabaya is generally carried out by private developers and aimed at the upper-class segment (Navastara & Navitas, 2012).

Ideally, there should be no significant difference between the housing produced for consumers and their expectations. However, earlier studies indicate that there is often a mismatch between consumer expectations and the housing provided (Kowaltowski & Granja, 2011; Moghimi et al., 2016; Mulliner & Algrnas, 2018; Rahadi et al., 2015b). Mulliner and Algrnas (2018) found significant differences between consumers' and property practitioners' views on what consumers believe are important housing attributes. Moghimi et al. (2016) revealed that mass housing developments in Iran are frequently designed and constructed, disregarding prospective users' values. According to Kowaltowski and Granja (2011), issues with social housing projects in Brazil are due to a mismatch between consumer and designer values. In Jakarta, property valuations are usually made based on the skills and ability of the property practitioner rather than on the consumers' view of the product (Rahadi et al., 2015b). In the long run, the mismatch between customer expectations and the housing provided compounded by externally affecting factors beyond developers and consumers' control may become a concern to both consumers and producers.

Property units are unique, unlike ordinary commercial products. Location characteristics, building façade, and floor plan layout vary from

one house to another. A housing product will stand out from the rest when it has a unique living environment, offers a different lifestyle, and different levels of prestige. Homebuyers consider several things prior to purchasing a house. Several factors that influence homebuying decisions include the location (Mulyano et al., 2020; L. Wang, 2013), structural attributes (Rahadi et al., 2015a, 2021; Riccardo et al., 2010), and economic factors (Kurniawan et al., 2020; Mardani et al., 2020). Other potentially influential factors include neighbourhood quality (Mang et al., 2020), the availability of facilities and amenities (Rahadi et al., 2021), property title (Sumarauw, 2015), and dwelling type (Mulyano et al., 2020). The developer's corporate image may also influence homebuying decisions (Mardani et al., 2020; Mulyano et al., 2020).

This study assesses factors influencing home buyers' purchase decisions that developers prioritise in real estate development. To date, there is still a lack of research into how much property professionals consider factors influencing consumers' housing preferences in Indonesia, namely in Surabaya. By understanding property practitioners' priorities, the authors hope to better understand how practitioners view their potential customers. Housing stakeholders such as property practitioners, consumers, and governing bodies will benefit from the knowledge obtained from this study to improve the housing market conditions in Surabaya.

LITERATURE REVIEW

Location

Household location choices are essential determinants for the structure of urban agglomerations. Residential location choice specifies residents' desired housing location (Fattah et al., 2018). Location factors strategically influence housing preference (Mulyano et al., 2020; L. Wang, 2013). Houses situated in strategic areas are also more attractive than those not (Mulyano et al., 2020). Location attractiveness is determined by the distance between a house and available facilities, activities, and services. Therefore, distance to the central business district (CBD), distance to healthcare facilities, distance to places of worship and other religious facilities, distance to educational

facilities, distance to commercial activities, and public transport availability may influence housing preference.

Property Title

Homeownership is traditionally viewed as an indicator of wealth (Aulia et al., 2019; Dharmayanti et al., 2018; Ong et al., 2021; Tashwir, 2021). However, homeownership can also profoundly affect physical and mental well-being (Ghimire, 2021; Harkness & Newman, 2003; Latif AA, 2015). Harkness & Newman (2003) found that homeownership is beneficial to children's outcomes in almost any neighbourhood. Children growing up in a homeownership family tend to perform better academically (Ghimire, 2021; Mukson, 2017). Ownership status has also been positively linked to household consumption (Afriana, 2018). Homeownership may have wider social benefits beyond the positive impact on children, such as higher public participation (Ernovianthy & Yasa, 2014).

Indonesia recognises seven types of housing titles (Sumanto, 2017). The first category is hak milik (ownership right). The second category is called hak guna usaha (right to cultivate). Hak guna bangunan refers to the right to build. Fourth is hak pakai (right to use). Hak pengelolaan gives the titleholder the right to manage. The sixth category is hak milik atas satuan rumah susun (right of ownership over stacked units) which regulates unit ownership in vertical public housing facilities. The final category is hak sewa (lease). In addition to these titles, areas are not yet registered and certified under the Agrarian Law. The rights to these lands are still governed by adat (customary law). These customary laws vary significantly from one place to another.

Infrastructure And Amenities

Infrastructure availability is crucial to determine location suitability (Abdurrahman & Rudiarto, 2017; Kumar & Bansal, 2019; Prakasa et al., 2020). Infrastructure is the network of tangible and intangible off-site systems for the individual space user (Graaskamp, 1992). These systems include street networks, sewage and other utilities, services like education, police and fire operational systems, governmental regulation, and all forms of economic activities.

Dwelling Type

Indonesian Housing Regulations classifies housing types according to the provider (Undang-Undang No. 1 Tahun 2011 Tentang Perumahan Dan Kawasan Permukiman, n.d.). There are five types of housing in Indonesia. The first category is the commercial housing. Individuals or enterprises provide them to seek profit. The second category is public housing, provided by the government to cater for low-income families and individuals. The third category is self-help housing which is built independently by individuals or a group of people. Special housing is the fourth category of housing. It is provided under particular circumstances, such as during an emergency. The final category is state housing, which are provided for government officials and employees of the state. The state and/or the central government provide the last two categories.

The Indonesian Housing Regulations also classifies housing according to the building configuration (Undang-Undang No. 1 Tahun 2011 Tentang Perumahan Dan Kawasan Permukiman, n.d.): 1) detached house; 2) row housing; and 3) vertical housing. A detached house is a house that is erected on a plot of land and does not share structures with neighbouring houses. Conversely, a row house shares structural components with its neighbours. Vertical housing refers to multiple-story structures containing multiple dwelling units.

Neighbourhood

In choosing of a place to live, a person does not only look at the condition of the residence. The residence's circumstances also influence home-buying decisions (Mang et al., 2020). The home's surrounding environments also a vital indicator for people's health and their meaningful interaction within the environment (Hedayati et al., 2019). Living in a safe and comfortable environment is vital as safety, comfort, privacy, and intimacy are human needs (Kowaltowski & Granja, 2011; Moghimi et al., 2016). de Graaff (2021b) revealed that safety and security influence property price.

Housing Price

Housing affordability is the ratio of a household's housing costs to

its income (Mulroy & Ewalt, 1996). According to Graaskamp (1992), the three groups participating in real estate development are cash cycle firms that must be solvent to continue and must generate a surplus over time to maintain trust with others. Indeed, from the consumer group point-of-view, price and economic considerations influence real estate buying (Bajpai & Bhalchandra, 2015; Eze & Lim, 2013; Maoludyo & Aprianingsih, 2015; D. Wang & Li, 2006; L. Wang, 2013). Disposable income is an essential indicator of an individual's capability to afford the property and other assets (Tan, 2008). Eze & Lim (2013) postulate that high disposable income will positively influence an individual's decision to buy property. Wang and Li (2006) further elaborated that the price of houses influences the utility level attained through its effects on the budget constraint. An increase in the price of a dwelling brings about a reduction in purchase probability. Interest rates, mortgage, and financial support (Bajpai & Bhalchandra, 2015; Eze & Lim, 2013). Affordability problems can lead to housing displacement because of eviction due to rent increases beyond a household's ability to pay (Mulroy & Ewalt, 1996). Regulatory barriers in the housing delivery system can significantly increase the cost of building houses (Tan, 2008).

Physical Attributes

A potential consumer notices when viewing a house' physical attributes (Rahadi et al., 2015a). Physical attributes are any physical features and utilities attached to the building, including lot, building size, number of floors, and technology (Mulyano et al., 2020). These attributes are strong determinants of home-buying decisions. Earlier research found a strong correlation between a building's façade design and consumers' willingness to pay rent (Riccardo et al., 2010).

METHODOLOGY

This is cross-sectional research focusing on real estate developers operating in Surabaya. This publication is part of a more significant effort to analyse housing choice and housing preference compatibility among Millennials in Surabaya. More specifically, this paper presents an analysis of factors real estate developers in Surabaya prioritise in real estate development. This research also focuses exclusively on commercial housing and does not

consider other forms of housing provision under the Indonesian Housing Regulations. However, this research acknowledges housing classifications according to different building forms.

Surabaya shares borders with Gresik Regency to the west and Sidoarjo Regency to the south. The Madura Strait separates Surabaya from Madura Island and forms the northern and eastern borders of the city. The following figure illustrates the geographical scope of this investigation.

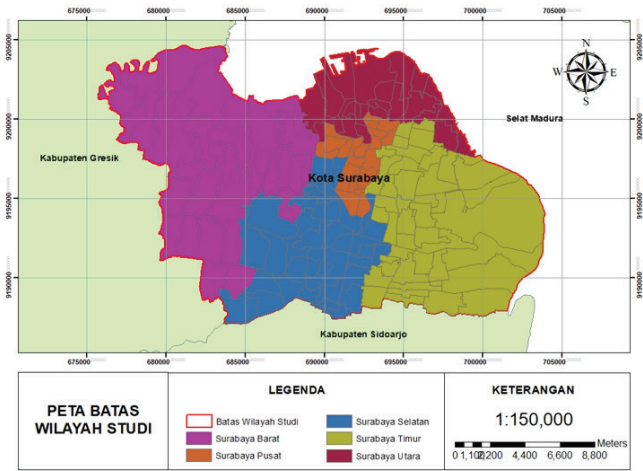


Figure 1. Map of Surabaya

Source: Author

Research Variables

This investigation observed several factors and variables to reveal housing provision characteristics in Surabaya. The variables observed throughout this study result from an extensive literature review. Seven leading indicators and 20 criteria were observed in this research.

Table 1. Research Indicators and Variables

Indicators	Variables
Location	Distance to CBD
	Distance to healthcare facilities
	Distance to religious facilities
	Distance to commerce/shopping centre
	Access to public transport
Infrastructure and amenities	Public open space availability
	Sports facility availability
	Telecommunication and internet network
	Water and electricity
Neighbourhood	Built environment
	Social environment
	Security
Physical attributes	Building exterior and façade
	Interior layout
	Lot size
Price	Property price
	Financing opportunities
Dwelling type	Dwelling type
Property title	Property title

Source: Author

Data Collection

Primary data were collected using a questionnaire distributed among developers operating in Surabaya. The questionnaire consisted of seven segments that reflect the research indicators and variables. All survey questions were pair-wise comparisons between research variables.

Despite the fact that Surabaya has hundreds of developers, due to time constraints, ten large-scale Surabaya developers were chosen as research samples. Each developer was represented by a staff of different managerial positions. The survey recruited three respondents who held a directorial role, one respondent, was a general manager, and six respondents were the regular staff. Respondents were asked to determine which variable is more influential for their company in providing housing in Surabaya.

Analysis

Determining the relative importance of factors considered by real estate developers was done using the Analytic Hierarchy Process (AHP), a multi-criteria decision modelling tool used to solve complex decision-making problems (de Graaff, 2021a). Using pairwise comparisons, the AHP calculates the relative weights of a set of criteria. A major advantage of AHP is that, unlike discrete choice models, it captures exact attribute rankings and allows for deeper attribute analysis among decision-makers.

Seven factors influencing homebuyers’ purchase decisions were derived from the literature review and analysed. Limiting the analysis to seven indicators enables more sub-criteria to be used while keeping the complexity under control (de Graaff, 2021a).

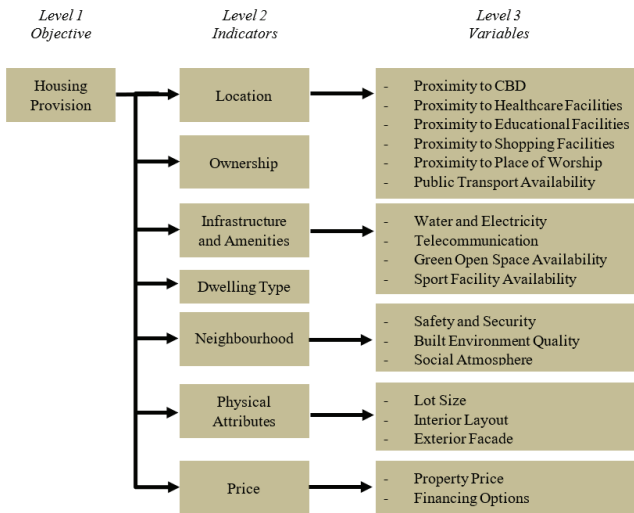


Figure 2. Analytical Hierarchy Process

Source: Author

The AHP analysis was divided into four stages. The first step in the AHP process is to develop a hierarchy that will later be weighted on each criterion so that it is known that the requirements are the priorities of the millennial generation. The second step is to distribute the questionnaire in the form of pair-wise comparison which each respondent is asked to give a score on a scale of 1-9 to which indicator or criteria are more important

than the other. The answer is then processed in a paired matrix to know the weight of the comparison level of importance. The third step is to employ the normality test followed by the consistency test. Finally, the last stage of the analysis is to conclude from the results. The output of this analysis will show the priority scale and the weight of each criterion.

RESULTS AND DISCUSSION

The weighting between the seven leading indicators in housing provision indicates that the location of a dwelling plays a prominent role for residential developers in providing housing. With a weight of almost a third of the total weight, it is showing the high significance of the location indicator. This finding is in line with a previous study in Jakarta, where location is the main factor for residential developers providing housing (Rahadi et al., 2015b).

Homeownership is considered the second most important indicator in housing provision, followed by infrastructure and facilities. Typology is ranked fourth and environmental conditions in fifth. The residential developer appears to be less concerned about the housing price and physical attributes of a house, as shown from the low weight and rank of those two indicators.

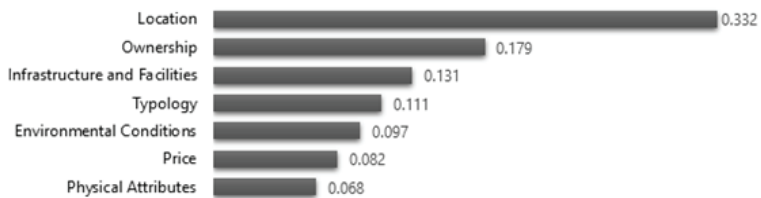


Figure 2: Rank and Weight of Housing Preference Indicators

Source: Author

Analysis of the 20 variables resulted in variable ranking. Proximity to CBD is ranked first out of 20 variables, while amenities such as sports facilities is ranked the lowest. This ranking suggests the items developers prioritise when engaging in housing provision activities. Figure 3 displays the overall weight and rank of all 20 variables in this research. The following section discusses the rank and weight of the variables on each indicator and

from the overall variables in more detail.

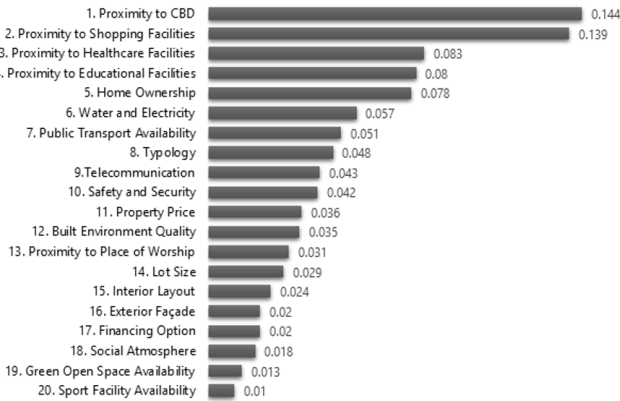


Figure 3. Rank and Weight of Overall Housing Provision Criteria

Source: Author

Location

Analysis shows that developers prioritise location. This result is consistent with previous studies (Mulyano et al., 2020; L. Wang, 2013). Further observation shows proximity to CBD is the primary criterion in housing provision, followed by proximity to shopping facilities. Those two variables have a very high weight, with over 50% of the total weight in the location indicator. These two variables are also ranked in the top two from the overall 20 variables. Proximity to healthcare facilities marks its position on the third rank, followed by proximity to educational facilities in fourth, both in the location indicator and in the overall rank. Thus, four out of the six variables in the location indicator is located in the top five in the overall rank. This has shown the considerable significance of location indicators for residential developers in providing housing in Surabaya. Public transport availability is ranked second from the bottom, and this finding is in line with previous research in Saudi Arabia, where public transport has low significance (Mulliner & Algrnas, 2018). Proximity to a place of worship is placed in the last rank with the lowest weight. These findings contradict prior research in greater Jakarta, where these variables have high urgencies for residential developers in providing housing (Rahadi et al., 2015b).

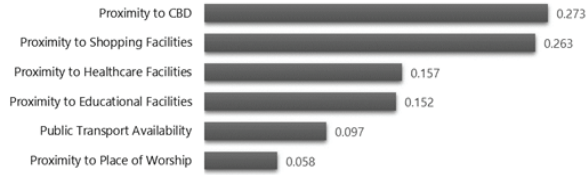


Figure 4. Rank and weight of variables Under Location indicator

Source: Author

Property Title

The type of property title is of relatively high importance for developers in Surabaya. They ranked it fifth from the overall variables with a weight of 7.8 per cent. This consideration may be because developers want to create residentially stable neighbourhoods (Harkness & Newman, 2003). However, this research did not investigate further the different ownership categories developers in Surabaya offer to their potential customers.

Infrastructure And Amenities

Developers in Surabaya ranked infrastructure and amenities third overall among housing indicators. Further analysis shows that water and electricity availability are the primary infrastructure consideration in housing provision in Surabaya. This variable also has high significance from the overall variables, where it is ranked sixth from the total 20 variables. The telecommunication variable then follows it. The variable of green open space availability and sports facility availability have a meagre weight compared to the other variables above it. This shows the low significance of this variable. These two variables are also ranked in the bottom two in the overall variables rank.

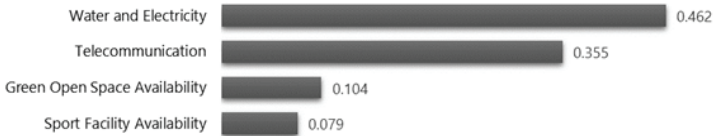


Figure 5. Rank and Weight of Variables Under Infrastructure and Facilities Indicator

Source: Author

Dwelling Type

The variable of typology is ranked in the top ten by the residential developer. This means that residential developers are slightly concerned about the housing typology in providing housing in Surabaya.

Neighbourhood

Residential developer ranks safety and security indicator in the first place in the neighbourhood indicator and rank 10th in the overall variables. It is then followed by built environmental quality, which is ranked 12 out of 20 variables. Residential developers appear to be less concerned about the social atmosphere of the neighbourhood, and the low rank of this indicator shows it. It is ranked third from the bottom



Figure 6. Rank and Weight of Variables Under Neighbourhood Indicator Housing Price

Source: Author

Analysis shows that residential developers tend to prioritise property prices over financing options. It is demonstrated by the property price weight that doubles the weight of the financing option variable. Overall, property price is ranked 11th, and financing option is ranked fourth from the bottom. This indicates that developers realise the importance of housing affordability (Mulroy & Ewalt, 1996) and the effects of housing price on purchase probability (D. Wang & Li, 2006). However, the results presented here do not reveal anything about regulatory constraints as mentioned by Tan (2008).



Figure 7. Rank and Weight of Variables Under Housing Price Indicator

Source: Author

Physical Attributes

From the analysis results, it is known that lot size is the most crucial variable in the physical attributes indicator for residential developers in Surabaya. Nevertheless, it is ranked 14th from the overall variables. It is then followed with interior layout ranked 15th, and exterior façade ranked 16th.



Figure 8. Rank and Weight of Variables Under Physical Attributes Indicator

Source: Author

CONCLUSION

This paper set out to assess factors influencing homebuyers' purchase decisions that developers prioritise in real estate development. The results of this investigation show that developers prioritise location, property title, and infrastructure and amenities. Real estate developers consider locations close to the CBD and shopping facilities as highly desirable. The top five of the 20 housing provision variables accounted for 52.4 percent of importance in housing provision in Surabaya. These five variables, in descending order of importance, are proximity to CBD (14.4%), proximity to shopping facilities (13.9%), proximity to healthcare facilities (8.3%), proximity to educational facilities (8%), and property title (7.8%).

The findings of this study have several important implications for future practice. Therefore, a key policy priority should be to provide land near activity centres for real estate development.

A limitation of this study is that this investigation limited the analysis to seven indicators, focusing on indicators that also affect consumer preferences for choosing a house. Further studies need to be carried out to uncover the influences of other factors, such as legal and political considerations. The process of real estate development is a product of the political system, and it continues to be a high-profile topic for intelligent and sophisticated societies. Another limitation is the small sample size. Future studies need

to include a larger sample to increase the accuracy of the results.

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AUTHOR CONTRIBUTIONS

All authors contributed to the design of the research, the questionnaire, and the write-up. The on-line survey, data cleaning and tabulation was undertaken by researcher. All authors have read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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