e-ISSN: 2986 – 2027 (online)
https://jsr.lib.ums.ac.id/index.php/determinasi

A Quantitative Examination of Housing Price Determinants in Yogyakarta

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ARTICLE INFO

Article history:

Received 5 Oktober 2025
Received in revised form 30 Oktober 2025
Accepted 15 November 2025
Available online 5 Desember 2025

ABSTRACT

This study examines the determinants of housing prices in Yogyakarta, focusing on structural property features such as land area, bedrooms, bathrooms, vehicle slots, and house area. Utilizing a quantitative approach with multiple linear regression on secondary data, the research identifies land area as the most significant predictor of property value, followed by bedrooms and bathrooms. Vehicle slots provide moderate influence, while house area shows a lesser impact. These findings highlight the critical role of land scarcity and urban growth in shaping housing prices, offering actionable insights for policymakers, urban planners, and developers. Future studies should explore qualitative factors like neighborhood quality and cultural influences to complement these results.

Keywords: Housing prices, property features, land area, urban growth, quantitative analysis.

Abstrak

Penelitian ini mengkaji faktor-faktor penentu harga perumahan di Yogyakarta dengan fokus pada karakteristik struktural properti seperti luas tanah, jumlah kamar tidur, jumlah kamar mandi, ketersediaan tempat parkir kendaraan, dan luas bangunan. Dengan menggunakan pendekatan kuantitatif melalui regresi linier berganda terhadap data sekunder, penelitian ini mengidentifikasi bahwa luas tanah merupakan prediktor paling signifikan terhadap nilai properti, diikuti oleh jumlah kamar tidur dan kamar mandi. Ketersediaan tempat parkir kendaraan memberikan pengaruh sedang, sementara luas bangunan menunjukkan dampak yang lebih kecil. Temuan ini menyoroti peran penting kelangkaan lahan dan pertumbuhan perkotaan dalam membentuk harga perumahan, serta memberikan wawasan praktis bagi pembuat kebijakan, perencana kota, dan pengembang. Penelitian selanjutnya disarankan untuk mengeksplorasi faktor kualitatif seperti kualitas lingkungan dan pengaruh budaya guna melengkapi hasil penelitian ini.

Kata Kunci: Harga perumahan, karakteristik properti, luas tanah, pertumbuhan perkotaan, analisis kuantitatif.

Received October 5, 2025; Revised October 30, 2025; Accepted November 15, 2025

e-ISSN : 2986-2027

1. INTRODUCTION

Housing prices are a fundamental component of economic stability and urban development, reflecting the balance between supply and demand, local market conditions, and structural property features. As urban areas expand and economies grow, the need to understand the factors influencing property valuation becomes increasingly essential for policymakers, real estate investors, and potential homeowners. This study specifically focuses on the housing market of Yogyakarta, a culturally significant and economically developing city in Indonesia.

Yogyakarta's housing market presents a unique blend of historical preservation, tourism, educational institutions, and modern urbanization. Its appeal as a cultural hub and academic centre drives significant demand for residential properties, especially in proximity to the city centre and renowned universities. However, this demand has led to rising property prices, creating a need for an in-depth analysis of the determinants influencing these variations. Several studies have explored the factors driving housing prices in Indonesia, particularly in metropolitan areas such as Jakarta and Surabaya. Key determinants commonly identified include structural property features such as the number of bedrooms and bathrooms, house area, land area, and amenities like vehicle slots. However, the housing market in Yogyakarta, despite its rapid development, remains underexplored in the context of these determinants.

The importance of examining property price determinants lies not only in understanding market behaviour but also in addressing broader economic concerns such as affordability and accessibility. Rising housing costs have a direct impact on homeownership rates and the financial capacity of low-to-middle-income groups. A study by [1] emphasizes that inflation and regional wage disparities significantly influence housing affordability for low-income communities. Similarly, [2] noted the importance of property characteristics and economic conditions as critical components of price formation. Additionally, property valuation is often influenced by microeconomic factors such as neighbourhood quality, proximity to key amenities, and infrastructural development. In Yogyakarta, these elements are compounded by its dual identity as both a historical site and a growing urban centre, creating complex pricing patterns not fully explored in previous research.

A further consideration is the impact of housing supply constraints and government policies on pricing. Limited land availability in central Yogyakarta, coupled with preservation regulations, may drive prices higher despite property features. This regulatory context introduces another layer of complexity that requires detailed examination alongside property-specific variables. Social and demographic factors also play a critical role in shaping housing prices. The presence of a large student population due to the concentration of universities influences rental demand and property investments, particularly in neighbourhoods near educational institutions. As a result, property prices in Yogyakarta may be more sensitive to location-specific factors than structural attributes alone.

Despite these valuable insights, a significant research gap persists in understanding the price dynamics within mid-sized cities like Yogyakarta. Previous studies have often generalized findings from larger urban centres without considering the unique socio-economic and cultural factors that shape pricing behaviours in smaller cities. This study seeks to address this gap by exploring the relationship between housing prices and structural property features such as the number of bedrooms, number of bathrooms, vehicle slots, land area, and house area in Yogyakarta. These variables have been selected due to their direct influence on both market perception and construction costs, which collectively drive property valuations. By employing a quantitative research approach, the study aims to identify the key predictors of property prices and the degree to which each variable influences pricing trends in Yogyakarta. Understanding these relationships can provide valuable insights for policymakers, real estate developers, and consumers seeking data-driven strategies for property investment and housing policy formulation.

Moreover, the study aims to support the development of a more inclusive housing market by highlighting factors that may contribute to price volatility and affordability challenges. Policymakers can utilize the findings to develop more effective housing policies and subsidy programs, while real estate professionals can leverage the insights for more accurate pricing models and valuation strategies. This research on Yogyakarta's housing prices contributes to both theoretical frameworks and practical implications for the property sector. It aims to provide a comprehensive understanding of pricing behaviour in a mid-sized Indonesian city, addressing both market efficiency and housing accessibility concerns.

This study seeks to answer the following research questions:

1. To what extent do property characteristics influence housing prices in Yogyakarta?

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2. Which variables among property features (bedrooms, bathrooms, vehicle slots, land area, house area) are the most significant predictors of housing prices?
3. How do variations in land and house area collectively impact property valuation?

2. LITERATURE REVIEW

2.1. Housing Market Overview in Yogyakarta

Yogyakarta, often referred to as the cultural and educational hub of Indonesia, presents a dynamic housing market characterized by rapid urbanization and a blend of traditional and modern influences. The city's appeal as a tourist destination, combined with its status as an academic hub, drives significant demand for residential properties, particularly in areas near universities, historical buildings and the city centre. These factors contribute to an upward trend in property prices, creating a complex landscape for home buyers and investors. Urban growth in Yogyakarta is driven by internal migration and the expansion of its education and cultural sectors. As [3] note, "urbanization, land constraints, and increasing population density" have increased competition for housing, especially in central areas. This rapid urbanization reflects a broader national trend in Indonesia, where cities face increasing pressure to accommodate growing populations while preserving historical and cultural assets.

The housing market in Yogyakarta shows significant spatial variation in property valuation. Proximity to important places, such as Malioboro Street and the Sultan's Palace, significantly increases the attractiveness and price of property. Meanwhile, areas in the outskirts of the city offer more affordable options but often lack the infrastructure and facilities of the central area. According to [1], regional economic conditions, including inflation and wage disparities, increasingly affect housing affordability, making it critical to address these disparities in urban planning and housing policies.

Research on housing in Indonesia highlights the role of cultural and regional influences on property values. For example, [4] [5] emphasize that "the formation of residential property values is often influenced by local culture and market perceptions," which is particularly relevant in a culturally rich area such as Yogyakarta. Furthermore, [6] argue that urbanization and population density exacerbate housing problems, stating, "the large population increase in the city centre has led to the growth of informal housing settlements and increased competition for formal housing."

Housing demand in Yogyakarta is also shaped by its academic sector, with a large student population seeking rental properties. This demand contributes to a vibrant rental market but also puts pressure on housing availability for long-term residents. According to [7], "the housing shortage in the city centre is partly driven by an influx of students and young professionals seeking short-term accommodation." Meanwhile, [8] highlight the importance of urban planning in alleviating this pressure, noting that "a well-coordinated housing policy can balance affordability and growth in a dynamic urban environment." In addition, the government has launched initiatives to address housing affordability and supply issues, such as subsidized housing programs targeting low- and middle-income households. These efforts are in line with findings from [9], who stated that "housing policies in Indonesia must address structural issues of supply and socio-economic barriers to access." However, the impact of these programs in Yogyakarta has been mixed, with affordability challenges continuing despite these efforts. The housing market in Yogyakarta is shaped by a combination of cultural, economic, and demographic factors. The interaction of these elements creates a dynamic yet challenging environment for buyers and policymakers. Understanding the unique characteristics of this market is critical to developing effective strategies to promote sustainable urban growth and housing affordability.

2.2. Theoretical Framework of Housing Price Determinants

Understanding the determinants of housing prices requires a comprehensive framework that integrates economic, spatial, and structural factors. Several key theories provide a basis for analyzing how these variables interact to influence property values. The basic principle that drives the real estate market is the law of supply and demand. As urbanization increases, demand for housing in Yogyakarta increases, putting downward pressure on property prices. [1] explains that rapid urban expansion, combined with limited land availability, has led to higher property prices, a trend also observed in other cities in Indonesia. Similarly, [4] highlight that population growth exacerbates housing affordability challenges, emphasizing the role of urban density in property valuation.

The hedonic pricing model posits that the market value of a property is determined by its inherent characteristics. This model decomposes prices into contributing factors, such as structural attributes and location. [10] identified the number of bedrooms, bathrooms, and house area as key determinants of housing

e-ISSN : 2986-2027

prices in urban Indonesia, reflecting broader findings in the literature. Showing how implicit prices are associated with individual property features. Recent empirical studies have reinforced that larger land and house areas command higher valuations in dense urban environments. The valuation principle emphasizes market comparison and substitution. [1] shows regional disparities in housing markets, where wage stagnation affects affordability. This is in line with the findings of [11], who discussed how economic constraints hamper homeownership opportunities. The substitution principle explains the behavior of buyers in choosing properties with comparable utilities at lower costs, which directly affects the price ceiling.

Socioeconomic variables, including income levels, inflation, and regional wages, are critical in determining housing affordability. [1] shows that inflationary pressures and wage disparities affect purchasing power, necessitating government intervention to stabilize market conditions. A study by [12] expands on the psychological and environmental impacs of unaffordable housing, framing it as a multidimensional problem. By integrating supply-demand dynamics, hedonic pricing, and real estate valuation theory, this study provides a comprehensive framework for understanding the determinants of property prices in Yogyakarta. This combined perspective allows for a nuanced analysis of the structural, spatial, and economic factors that shape the housing market. The resulting insights will inform evidence-based urban planning, investment strategies, and policy recommendations tailored to the local context.

2.3. Key Determinants of Housing Prices

The relationship between land and house size and property prices has been well documented. [1] highlights that land scarcity in urban environments such as Yogyakarta leads to increased demand and higher valuations for larger plots. Urban sprawl and limited space availability drive premiums for properties with larger land footprints. [13] [14] and [15],, confirm that larger house areas offer greater comfort and customization potential, making them desirable despite rising prices. Additionally, larger land areas provide opportunities for future development or landscaping, both of which contribute to perceived long-term investment value. The interaction between land scarcity and population density accentuates the premium on space, especially in developing cities such as Yogyakarta.

Additional amenities and features significantly affect property prices by increasing comfort and livability. [16] show that parking availability and proximity to transportation hubs are key determinants of market value. As urban areas become more dense, [11] highlighted that designated vehicle slots and access to public transportation infrastructure are becoming important components of buyer decisions. Additional amenities such as green spaces, recreational facilities, and security systems also contribute to higher property valuations. [17] noted that properties located near essential services, schools, and commercial centres command a premium price, as accessibility directly impacts quality of life. Additionally, modern housing trends prioritize energy efficiency and smart home technology. According to a recent study cited in [1] features such as solar panels, advanced insulation, and automated home systems enhance the attractiveness of properties by offering long-term cost savings and greater convenience. This advancement is in line with consumer preferences for a sustainable and technologically integrated living environment, further reinforcing the importance of amenities in property valuation. By analyzing these key determinants, this study aims to uncover the relative importance of structural and spatial features in shaping housing prices in Yogyakarta. These findings will contribute to more informed decision-making by policymakers, urban planners, and real estate professionals, ultimately guiding strategies for sustainable urban development and affordable housing initiatives.

2.4. Empirical Studies on Housing Prices Determinants

Empirical research on the determinants of housing prices has examined a wide range of regions, utilizing a variety of methodologies to measure the influence of structural, spatial, and economic factors. A common approach involves multiple linear regression analysis, as it allows researchers to isolate the individual effects of property attributes on prices. [1] used this method to show the impact of inflation and regional minimum wages on housing affordability across cities in Indonesia, providing a quantitative basis for policy recommendations. [12] applied content analysis and correspondence analysis to study residential satisfaction and perceived quality based on online apartment reviews. Their findings highlight the interaction between structural attributes and user attitudes, emphasizing the importance of amenities, management quality, and environmental factors in property valuation. This approach enriches traditional quantitative models by incorporating subjective perceptions of housing quality.

In Jakarta, [2] identified income constraints and credit accessibility as significant barriers to homeownership among young adults. Their study highlights the need for affordable housing policies and financial innovations, such as flexible mortgage schemes, to improve market accessibility. Similarly, [11] found that

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urban congestion and limited parking facilities significantly affect housing prices in densely populated areas, a trend also seen in the emerging market of Yogyakarta. International studies offer comparative insights into broader market dynamics. For example, [5] document the relationship between consumer preferences and pricing strategies in the Indonesian real estate market, highlighting the role of perceived value and location attractiveness in shaping demand. Their work highlights the multidimensional nature of housing prices, where tangible factors such as land area interact with intangible attributes, including neighbourhood prestige and cultural significance.

While regression-based models dominate the literature, qualitative approaches such as focus groups and perception-based surveys are increasingly being used to capture unquantifiable influences on housing prices. However, as [1] notes, there is a dearth of area-specific analyses for Yogyakarta, limiting the broader applicability of the findings to its unique urban and cultural context. This study bridges this gap by synthesizing quantitative and qualitative methodologies to provide a holistic understanding of the determinants of housing prices in Yogyakarta. Leveraging secondary data from Kaggle and insights from the existing literature, this study contributes to a more nuanced and context-sensitive exploration of real estate market dynamics.

2.5. Methodological Approaches and Research Gaps in Housing Price Analysis

Quantitative analysis provides the basis for studying the impact of property characteristics on housing prices. Descriptive statistics, multiple linear regression (MLR), and reliability analysis are commonly used to gain insights from property data. MLR models the relationship between housing prices (dependent variables) and property attributes (independent variables) such as the number of bedrooms, bathrooms, vehicle slots, land area, and house area. Regression analysis assigns coefficients to these variables, measuring their respective contributions to property valuation. [1] applied regression to highlight the impact of economic indicators on housing affordability across Indonesia, while [3] used similar methods to analyze the determinants of satisfaction in urban housing.

Descriptive statistics offer fundamental insights into data trends, variability, and major tendencies. This summary allows for a better understanding of the composition of the data set, which is essential before applying more sophisticated analysis techniques. [2] demonstrated the use of descriptive and inferential statistics in investigating barriers to home ownership. Furthermore, unidimensional reliability analysis evaluated internal consistency, ensuring the reliability of the data set and the robustness of the findings, as recommended by [11] and other contemporary studies. This study addresses the research gap in the Yogyakarta housing market by integrating descriptive statistics, multiple linear regression, and reliability analysis. These methods facilitate a comprehensive evaluation of how structural and spatial property characteristics affect housing prices. Using secondary data from Kaggle and applying JASP software for analysis, this study aims to fill the gap in local empirical investigations and provide actionable insights for urban planning and market strategy development.

Based on the Literature Review above the researchers proposed these hypotheses**:**
H1: The number of bedrooms and bathrooms positively influences housing prices.
H2: Land area and house area are significant predictors of housing prices.
H3: A greater number of vehicle slots contributes to higher housing prices.

3. METHODOLOGY

This study uses a quantitative research design to explore the influence of property characteristics on house prices in Yogyakarta. This study uses secondary data from a publicly available Kaggle dataset titled Yogyakarta Housing Prices (Indonesia). The dataset includes key variables: property price as the dependent variable, and number of bedrooms, number of bathrooms, number of vehicle slots, land area, and house area as independent variables. Data preprocessing is performed to ensure the accuracy and integrity of the data set. Data cleaning involves identifying and handling missing values or outliers. Data transformations are applied when necessary to normalize or adjust for nonconforming variables, while consistency checks ensure that the units and ranges for each variable are valid and appropriate for the analysis.

Data analysis for this study was conducted using JASP statistical software. Descriptive statistics were calculated to summarize the central tendency, dispersion, and overall pattern in the data set, which provide fundamental insights into the variability and distribution of housing prices and property characteristics. Multiple linear regression (MLR) was used to examine the collective and individual effects of independent variables on property prices, identify key predictors, and measure their effects by estimating regression coefficients. To ensure the validity of the regression model, multicollinearity was assessed using Variance

e-ISSN : 2986-2027

Inflation Factors (VIF). Unidimensional reliability analysis was conducted using the ω (omega) coefficient to evaluate the internal consistency and reliability of the data. The combination of descriptive statistics, multiple linear regression, and reliability analysis offers a comprehensive framework for understanding how property characteristics affect housing prices. Sugiyono (2018) highlights that regression analysis is an appropriate method for modelling the relationship between multiple predictors and dependent variables, allowing for robust predictive insights and statistical interpretation. This methodological approach allows for a detailed and data-driven exploration of the Yogyakarta housing market, supporting informed urban planning and policy recommendations.

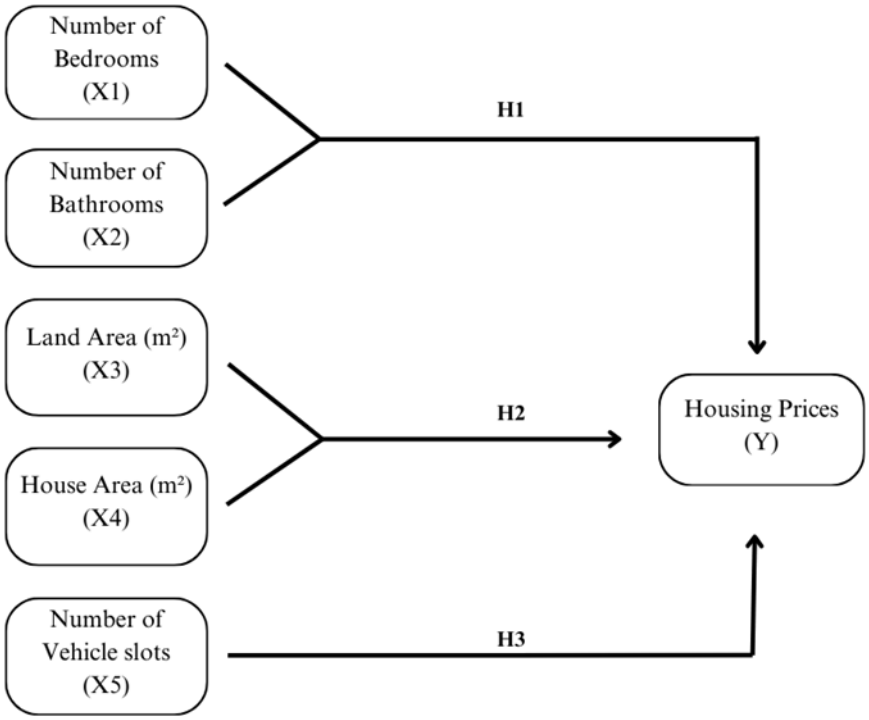

Figure 1. Research Model

4. RESULT AND DISCUSSION

4.1. Descriptive Statistics

The descriptive statistics analysis highlights the key characteristics of the dataset used in this research. The average housing price in Yogyakarta was IDR 1.840 billion (SD = IDR 2.700 billion), with prices ranging from IDR 7 million to IDR 42.1 billion. The mean land area was 185.71 m² (SD = 250.70 m²), while the average house area was 1,193 m² (SD = 5.36×10^{7} m²), showing significant variability in property sizes. Structural features such as the number of bedrooms (mean = 3.97, SD = 3.67), bathrooms (mean = 2.94, SD = 3.52), and vehicle slots (mean = 1.56, SD = 1.28) also exhibited moderate variation, reflecting the diversity of properties included in the dataset.

Table 1. Descriptive Statistics

	Y	X1	X2	X3	X4	X5
Valid	2020	2001	1999	2019	2019	1713
Missing	0	19	21	1	1	307
Mean	$1.840\times10^{+9}$	3.969	2.942	185.711	$1.193\times10^{+6}$	1.559
Std. Deviation	$2.700\times10^{+9}$	3.672	3.518	250.697	$5.359\times10^{+7}$	1.283
Minimum	$7.000\times10^{+6}$	1.000	1.000	4.000	4.000	1.000
Maximum	$4.210\times10^{+10}$	49.000	49.000	4222.000	$2.408\times10^{+9}$	15.000

e-ISSN : 2986-2027

4.2. Linear Regression Analysis

Linear regression analysis assessed the relationship between housing price (dependent variable) and property attributes (independent variables). The model's R^2 value was 0.428, indicating that the predictors accounted for 42.8% of the variance in housing prices. The model achieved statistical significance: $F(5, 1707) = 255.836$, $p < 0.001$.

Table 2. Model Summary – Price (Y)

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	$2.296\times10^{+9}$
M_1	0.654	0.428	0.427	$1.738\times10^{+9}$

Note. M_1 includes X1, X2, X3, X4, X5

To further examine the significance of the predictors, an ANOVA test confirmed the model's significance ($p < 0.001$), as shown in Table 3.

Table 3. ANOVA

Model		Sum of Squares	df	Mean Square	F	p
M_1	Regression	$3.865\times10^{+21}$	5	$7.730\times10^{+20}$	255.836	< .001
	Residual	$5.158\times10^{+21}$	1707	$3.022\times10^{+18}$		
	Total	$9.023\times10^{+21}$	1712			

Note. M_1 includes X1, X2, X3, X4, X5

Note. The intercept model is omitted, as no meaningful information can be shown.

The regression coefficients in Table 4 highlight the relative contribution of each variable to housing price.

Table 4. Coefficients

							Collinearity Statistics	
Model		Unstandardized	Standard Error	Standardized	t	p	Tolerance	VIF
M_0	(Intercept)	$1.685\times10^{+9}$	$5.547\times10^{+7}$		30.385	< .001		
M_1	(Intercept)	$-1.120\times10^{+7}$	$8.006\times10^{+7}$		-0.140	0.889		
	X1	$8.854\times10^{+7}$	$3.939\times10^{+7}$	0.131	2.248	0.025	0.099	10.079
	X2	$1.642\times10^{+8}$	$3.939\times10^{+7}$	0.244	4.169	< .001	0.097	10.257
	X3	$3.729\times10^{+6}$	243986.024	0.359	15.282	< .001	0.608	1.643
	X4	0.301	0.722	0.008	0.417	0.677	1.000	1.000
	X5	$1.606\times10^{+8}$	$4.408\times10^{+7}$	0.090	3.643	< .001	0.552	1.812

4.3. Unidemensional Reliability Analysis

Reliability analysis using the ω coefficient yielded an estimate of 0.00037 (95% CI: 3.92×10^{-7} to 0.001), indicating low internal consistency. The X5 (vehicle slots) variable negatively correlated with the scale, which may have contributed to the reduced reliability.

e-ISSN : 2986-2027

Table 5. Frequentist Scale Reliability Statistics

			95% CI	
Coefficient	Estimate	Std. Error	Lower	Upper
Coefficient ω	3.662×10^{-4}	4.261×10^{-4}	3.915×10^{-7}	0.001

Note. The following item correlated negatively with the scale: X5.

4.4. Discussion: Interpretations and Implications

Table 6. Hypothesis Test Result.

	Description	Decision
H1	The number of bedrooms and bathrooms positively influences housing prices.	Accepted
H2	Land area and house area are significant predictors of housing prices.	Accepted
H3	A greater number of vehicle slots contributes to higher housing prices.	Accepted

The results of this study confirm the significant influence of structural property characteristics on house prices in Yogyakarta, as outlined in the proposed hypothesis. The number of bedrooms and bathrooms was found to have a positive impact on house prices, with regression coefficients indicating that these variables are statistically significant predictors. This suggests that buyers value additional living and functional space, which contributes to the utility and overall attractiveness of the property. Properties with more bedrooms and bathrooms tend to be considered more suitable for larger families or households, in line with the needs of buyers in a city experiencing urban expansion and increasing demand for comfortable living spaces.

Land area emerged as the most important determinant of house prices, reflecting the ongoing competition for limited land resources in urban Yogyakarta. The high standardized coefficient for land area underscores its key role in shaping property valuations, with larger plots commanding higher prices due to their scarcity and potential for development. In contrast, the house area showed a less pronounced impact on property prices. These findings suggest that buyers may prioritize land availability over building size, especially in markets where land scarcity drives price premiums. The emphasis on land area is also in line with broader trends in urban property markets, where open space is often associated with higher investment value and future development opportunities.

Availability of vehicle slots is another significant predictor of housing prices, although its effect is more moderate than that of land area. In a rapidly urbanizing city like Yogyakarta, where parking is increasingly scarce, the inclusion of vehicle slots adds value to residential properties. This reflects the importance of practical amenities that address urban challenges, such as congestion and limited parking infrastructure. Buyers in these markets tend to prioritize properties that offer convenience and security, making vehicle slots an attractive feature. Analysis of the reliability of the data set revealed some inconsistencies, with low ω coefficients indicating weak internal consistency across variables. In particular, vehicle slots were negatively correlated with the overall scale, indicating potential misalignment in how this variable interacts with other variables. This finding highlights the need for further refinement in data collection and analysis, particularly in ensuring that all variables accurately reflect the factors that influence property prices.

These results have significant implications for policymakers, real estate developers, and urban planners. Policymakers should focus on strategies to alleviate land scarcity by encouraging affordable housing projects in less densely populated areas or promoting vertical housing developments to maximize land use efficiency. Addressing parking infrastructure challenges through urban planning initiatives will further improve the livability of residential areas. For real estate developers, the findings suggest that properties that emphasize a larger land area, adequate bedrooms and bathrooms, and sufficient vehicle slots are more likely to match buyer preferences and thus sell better in the market. Developers should also consider future development potential when designing properties, as land area remains a key driver of property valuation. Future research should address the limitations observed in the reliability analysis by refining the measurement of variables such as vehicle slots and exploring additional qualitative factors, such as neighborhood quality or proximity to amenities. Combining these factors can provide a more holistic understanding of the determinants of housing prices in Yogyakarta. Furthermore, urban planners and policymakers can use these insights to balance the competing demands of affordability, accessibility, and sustainable urban growth. These efforts will contribute to a more equitable housing market that accommodates diverse buyer needs while addressing broader economic and social challenges in Yogyakarta.

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The findings of this study validate the hypothesis that structural property features, specifically land area, bedrooms, bathrooms, and vehicle slots, significantly affect housing prices in Yogyakarta. These results provide actionable insights for stakeholders to address affordability and sustainability challenges in a dynamic urban housing market. By focusing on strategic planning and data-driven decision-making, stakeholders can develop more effective solutions to promote inclusive and efficient urban development.

5. CONCLUSSION

This research set out to explore the determinants of housing prices in Yogyakarta, addressing the pivotal question of how structural property features influence valuation within the context of this culturally and economically unique city. By analyzing variables such as the number of bedrooms, bathrooms, vehicle slots, land area, and house area, this study uncovered the intricate dynamics shaping the local housing market. Yogyakarta's dual identity as both a cultural heritage site and a rapidly urbanizing educational hub has created a unique environment for housing development. The findings reveal that structural attributes, especially land area, play a significant role in driving housing prices, reflecting both market demand and socio-economic realities. The significance of these findings lies in their contribution to the understanding of real estate dynamics in mid-sized cities, which are often overlooked in broader urban studies. While previous research has focused on larger metropolitan areas, this study bridges a critical gap by providing context-specific insights into Yogyakarta's housing market. The outcomes not only answer the research question but also highlight the interplay of urban growth, cultural identity, and economic pressures, offering valuable implications for stakeholders.

The study confirms that structural property features are critical determinants of housing prices, with land area emerging as the most influential factor. This result underscores the premium placed on land availability in an urban environment where space is limited, and demand is steadily rising. Buyers in Yogyakarta prioritize larger land areas for their potential future value, including development opportunities or resale advantages. This trend reflects a broader pattern seen in urban housing markets, where land scarcity drives competition and elevates prices. Bedrooms and bathrooms also significantly influence property valuation, emphasizing the importance of functionality and comfort in buyer preferences. As Yogyakarta continues to urbanize, families and individuals seek homes that meet their growing needs for living space and convenience. These structural features cater to practical living requirements, offering a blend of utility and appeal that resonates with the city's evolving demographic. Vehicle slots, while less prominent in their impact, represent an essential amenity in Yogyakarta's housing market. With urban congestion becoming a growing concern, the availability of dedicated parking spaces enhances the desirability of residential properties. This feature addresses practical challenges, such as limited street parking, and reflects buyers' prioritization of convenience and security. The moderate influence of vehicle slots further highlights the nuanced preferences of buyers who weigh both functionality and cost when making decisions.

The study also uncovers the relative insignificance of house area compared to land area, suggesting that buyers may prioritize external factors such as land size over the interior dimensions of the property. This finding highlights a unique aspect of Yogyakarta's housing market, where open space is often more valued than the built-up area, possibly due to cultural or investment considerations. The interplay of structural features and market forces creates a complex yet coherent narrative about housing prices in Yogyakarta. This study synthesizes these findings to present a broader picture of the city's housing dynamics. Land area, as a finite resource, serves as the cornerstone of property valuation, driving up prices and shaping buyer preferences. The emphasis on bedrooms and bathrooms reflects a growing demand for homes that cater to modern living standards, while the inclusion of vehicle slots underscores the importance of amenities in urban environments.

These insights provide answers to key questions about the factors shaping housing prices in Yogyakarta. However, they also invite further exploration into how these structural features interact with intangible aspects, such as neighborhood quality or proximity to cultural landmarks. The role of government policy in moderating housing prices also remains an area ripe for investigation. While this study has addressed the direct impact of property characteristics, it leaves room for future research to delve into broader socio-economic influences and their interplay with structural attributes. In providing these insights, the study fills a critical gap in understanding the housing market of mid-sized cities, where unique socio-economic conditions often diverge from patterns observed in larger metropolitan areas. The findings synthesize key theoretical perspectives, including the law of supply and demand, hedonic pricing models, and valuation principles, offering a comprehensive framework for understanding property dynamics.

e-ISSN : 2986-2027

The implications of these findings are far-reaching, particularly for policymakers, urban planners, and real estate professionals. Policymakers can use the results to design interventions that address land scarcity and promote affordable housing. By incentivizing vertical housing developments or expanding housing supply in less densely populated areas, they can balance market demands with affordability. These initiatives are crucial in ensuring that Yogyakarta remains accessible to a wide range of buyers, from students and young professionals to families and investors. For urban planners, the findings highlight the need to integrate housing strategies with broader urban development goals. As Yogyakarta balances its cultural heritage with rapid urbanization, planners must ensure that housing development aligns with the city's identity while meeting the demands of a growing population. This includes preserving historical areas while promoting sustainable housing in peripheral regions, thereby alleviating pressure on central neighborhoods. Real estate developers can draw valuable lessons from this study by focusing on property features that resonate with buyer preferences. Emphasizing land area and functional living spaces can enhance the marketability of properties, while incorporating practical amenities like vehicle slots can address specific urban challenges. Developers should also consider future-proofing their projects by anticipating changes in buyer behavior, such as increasing demand for energy-efficient or smart homes. The significance of this study extends to buyers and investors, who can use the insights to make informed decisions. By understanding which property features hold the greatest value, stakeholders can align their investments with long-term market trends, maximizing returns and minimizing risks.

Yogyakarta's housing market exemplifies the challenges and opportunities faced by mid-sized cities worldwide. The findings demonstrate how structural attributes interact with economic and spatial factors to shape property valuations, providing actionable insights for addressing urban housing issues. By connecting these findings to real-world challenges, the study underscores the need for targeted solutions that balance affordability, sustainability, and growth. One practical implication is the importance of optimizing land use in Yogyakarta. Policymakers can encourage high-density developments in underutilized areas, reducing the pressure on central neighborhoods. Enhancing transportation infrastructure and public amenities can also increase the attractiveness of peripheral regions, distributing demand more evenly across the city. For homeowners, the study offers a roadmap for enhancing property value by emphasizing key features. Buyers seeking long-term investments can prioritize properties with larger land areas or functional amenities, while sellers can highlight these features to attract potential buyers. On a broader scale, this study highlights the need for international collaboration in addressing urban housing challenges. Lessons from Yogyakarta's market can inform strategies in other cities facing similar issues, fostering a global dialogue on sustainable urban development.

While this study provides a robust analysis of housing price determinants, it also opens the door to several unanswered questions. Future research could explore the role of intangible factors, such as neighborhood quality, cultural significance, or proximity to key amenities, in shaping housing prices. These aspects could provide a more holistic understanding of buyer preferences and market dynamics. Another area of interest is the effectiveness of government interventions in moderating housing prices. How do policies, such as subsidized housing programs or zoning regulations, influence affordability and accessibility in Yogyakarta? Longitudinal studies could track the impact of these initiatives over time, offering insights into their successes and limitations. Qualitative research could also complement the quantitative findings by capturing buyer motivations and perceptions. Focus groups or interviews with homeowners, investors, and developers could provide valuable context, enriching the statistical analysis with human perspectives. Finally, future studies could explore the impact of emerging trends, such as smart home technology or sustainable housing solutions, on property valuation. These innovations are likely to shape the housing market in the coming years, making them a critical area of investigation for researchers and practitioners alike.

This research illuminates the factors driving housing prices in Yogyakarta, offering a comprehensive understanding of a dynamic and evolving market. The findings are a call to action for stakeholders to adopt data-driven strategies that balance growth with inclusivity. Yogyakarta's housing market serves as a microcosm of broader urban challenges, reminding us that the pursuit of sustainable and equitable cities is both a local and global imperative. As we look to the future, it is clear that housing is more than a commodity—it is a cornerstone of community and opportunity. By aligning policies, practices, and investments with the insights gained from this study, stakeholders can help build a housing market that not only meets the demands of today but also lays the foundation for a better tomorrow.

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