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Factors Affecting the House Price among Kuala Lumpur, Selangor and Johor

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Abstract— Housing is essential for human development and productivity. The price and suitability of houses depend on factors like location and amenities. Economic factors impact housing prices, and good housing improves health and reduces medical needs. Affordability and market sentiment are crucial for a balanced housing sector. The average housing price in Malaysia has seen a significant increase over the past decade, making it challenging for people to afford homes, especially considering stagnant salary growth. The ratio of house prices to average income is a crucial indicator of affordability. This disparity has implications for economic growth, as oversupply can occur due to the inability to afford housing. Therefore, it is crucial to study the factors contributing to house prices in Kuala Lumpur, Selangor, and Johor. The objective of the paper is to determine factors that affect the house prices in Kuala Lumpur, Selangor, and Johor. In this study, only prices of houses located in Kuala Lumpur, Selangor and Johor is studied and about 306 data about house price is obtained thus is used in generating the analysis. Number of bathrooms, number of bedrooms, floor area, location, type of property and type of furnishing factors were taken into consideration in this study. The results revealed that number of bathrooms, floor area, location, Terrace type, Semi D type, house type and type of furnishing factors do affect the house price in 2018 to 2020 among Kuala Lumpur, Selangor, and Johor. By understanding the factor affecting the house price, investors would be able to gauge the factors that matter most before investing in property.

Keywords— Factors, Affecting, House Price, Multiple Linear Regression

I. INTRODUCTION

The three basic necessities of life are clothing, food, and shelter [1]. The availability of these needs boosts people's physical productivity and efficiency. Housing is therefore a crucial aspect of the development of human resources. In general, house price movements are influenced by economic fundamentals, where real income growth affects a household's ability to borrow money and make purchases, supply affects availability and choice, and economic activity affects consumption and subsectors related to housing [2].

Is the price too high or is it a realistic price based on current market value? Economic uncertainty following the endemic's overall recovery has caused many prospective homebuyers to postpone their buying ambitions, while many others have voiced concerns about affordability. The high number of residential housing overhangs is more of a result of reduced housing affordability and lower sentiment due to depriving households of income than a mismatch in pricing. On the contrary, overpricing is still the dominant factor in service apartment overhangs, as a majority of them are products priced at RM500,000 and above, which are mainly contributed by the Johor market [3].

People would not be able to afford to buy a house when house prices are rising sharply and salaries are not increasing considerably; hence, the ratio of house price to average income is a strong indicator of affordability [4]. In 2021, the Malaysian House Price Index (MHPI) modestly increased by 60%, which caused the national median house price to increase to RM310,000. Additionally, this is a 96.2% increase from the RM158,000 noted for the base year 2010; the median house price in 2010 was RM188,000 [5]. In order to afford a house priced up to RM300,000, a household needs to earn RM100,000 a year or RM8,333 a month. According to Bank Negara, only 36% of newly launched units are priced at RM300,000 and below, and 76% of households in Malaysia earn less than RM8,333 a month.

The previous study suggested that variables such as the number of bathrooms and the number of bedrooms have a significant relationship with the house price [6]. Likewise, property type, floor area, furnishing type and location also affect the house price. Therefore, the main objective of the research is to determine the factors affecting the house price in Kuala Lumpur, Selangor, and Johor, which are the number of bathrooms, number of bedrooms, property type, floor area, furnishing type and location.

II. METHODS

A. Description of variables

In order to conduct the study, about 409 secondary data points were used. The population of this study will be the price of property sold in Kuala Lumpur, Selangor, and Johor. There are seven variables, including house price, number of bedrooms, number of bathrooms and floor area.

Name of variables	Type of variables	Variable measurement
House Price	Quantitative	Ratio
Number of bathrooms	Quantitative	Ratio
Number of bedrooms	Quantitative	Ratio
Size of Floor Area	Quantitative	Ratio
Location	Qualitative	Nominal (0=Kuala Lumpur) 1=Selangor 2=Johor)
Furnishing Type	Qualitative	Nominal (0=Unfurnished) 1=Partially Furnished 2=Fully Furnished)
Property Type	Qualitative	Nominal (0=House) 1=Bungalow 2=Semi-D 3=Terrace House 4=Condominium)

B. Theoretical Framework

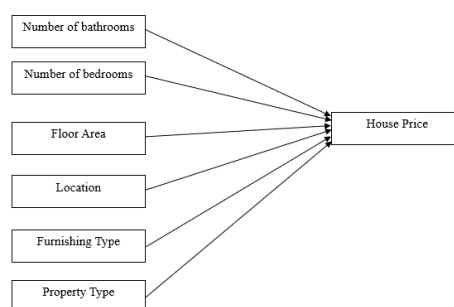


Fig. 1. Theoretical Framework

Fig. 1. shows the graphical representation of the relationship between house prices and the number of bathrooms, number of bedrooms, size of floor area, location, furnishing types and property types.

C. Multiple Linear Regression

Multiple linear regression is used to determine which significant factors are affecting house prices from 2018 until 2020. On the basis of a few assumptions, the regression model was constructed. Therefore, the model can only be applied if these assumptions are met. The model cannot be utilised to draw conclusions if any one of these assumptions is false [7]. There are six assumptions: the relationship between dependent and independent variables must be linear, the error term must be normally distributed, the error variance must be constant, there is no presence of multicollinearity, the error terms are independent and

there are no outliers. F-test or known as ANOVA evaluates how effectively the independent variables explain for the dependent variable's change [8].

III. RESULTS AND FINDINGS

A. Multiple Linear Regression of the Model

Table 1 below shows the coefficients for each of the variables used to determine the significant factors between house prices in Malaysia. Based on Table 1, there are 9 variables that are significant to the house price from 2018 until 2020 which are number of bathrooms, size of floor area, houses that are located in Johor and Selangor, semi-furnished house, furnished houses, terrace houses, Semi-D houses and house type since the values of Sig. is less than 0.05. From 2018 until 2020, only two variables that are not affect the house price which the number of bedrooms and the condominium house.

Table 1. Coefficient's Table

	Unstandardized Coefficients B	Sig.
Intercept	404903.800	0.000
Number of bathrooms	95489.405	0.000
Number of bedrooms	6002.536	0.668
Size of floor area	239.571	0.000
Johor	-323476.524	0.000
Selangor	-194248.315	0.000
Semi furnished house	61325.971	0.005
Furnished house	90758.382	0.003
Terrace	-217287.527	0.000
Condominium	2285.661	0.965
SemiD	-117614.600	0.024
House	-340100.203	0.000

The variables used in this study fulfilled all of the assumptions included in the multiple regression analysis. The result from Table 2 shows that the number of bathrooms, number of bedrooms, size of floor area, furnishing type and property type contribute to the effect of house price by 77.80%. The remaining 23.20% can be explained by other factors.

Table 2. Model's Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.886	0.786	0.786	150677.413

The results from Table 3 indicates that, in terms of overall performance, number of bathrooms, number of bedrooms, size of floor area, furnishing type, and property type are significant to the house price.

Table 3. Model's ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.445E+13	11	2.223E+12	97.921	0.000
Residual	6.675E+12	294	2.270E+10		
Total	3.113E+13	305			

IV. CONCLUSIONS

The main aim of this research is to determine significant factors affecting house prices in Kuala Lumpur, Selangor, and Johor from 2018 until 2020. Following the analysis, this research discovered that the number of bathrooms, size of floor area, houses that are located in Johor and Selangor, semi-furnished houses, terrace houses, semi-D houses and house type are affecting the house prices in Kuala Lumpur, Selangor and Johor from 2018 until 2020. This research also found out that the number of bedrooms and the condominium house are not significant, which indicates that the number of bedrooms and the condominium house did not have an impact on the house prices in Kuala Lumpur, Selangor and Johor from 2018 until 2020.

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