

# Analysis of Physical Factors and Housing Reputation Effect to Property Value in Citra Wisata Residence

C. D. Malahati<sup>1</sup>, K. A. Fachrudin<sup>2</sup> and H. T. Fachrudin<sup>3</sup>

<sup>1</sup>Master of Property Management and Valuation Program, Universitas Sumatera Utara, Jl. Dr. Mansyur Campus USU, Medan

<sup>2</sup>Department of Management, Universitas Sumatera Utara, Jl. Prof. T. Maas Campus USU, Medan

<sup>3</sup>Department of Architecture, Universitas Sumatera Utara, Jl. Perpustakaan Bulding J7 Campus USU, Medan

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**Abstract:** Housing has become a valuable marketing target nowadays, because housing can be used as an investment in the future in a relatively long time. Deciding the value of a housing property is based on physical attributes of a housing, such as location, facility, design, environment and housing reputation. Citra Wisata Residence is one of the oldest housing estates in Medan Johor Subdistrict, with its well-equipped and well managed housing, the values are increasing. By the increasing growth of new housing in this research area, Citra Wisata Residence still has a good image and keep its existence until today. The purpose of this research is to find out and analyze how big the location, facility, design, environment and housing reputation affect the property's value. The population of this research were housing residents of Citra Wisata Residence, and based on Slovin formula, the number of samples are 82. Hypothesis testing uses multiple linear regression analysis using SPSS and STATCAL at a significance value of 5%. The result of this research indicate that location, facility, design, environment and housing reputation simultaneously have a positively and significantly affect the value of Citra Wisata Residence. Partially, facility, design and housing reputation positively and significantly affect the value of Citra Wisata Residence. Housing reputation is dominant variable in influencing property value of Citra Wisata Residence.

## 1 INTRODUCTION

The price of a property is related to the function and attributes of a housing itself. Some of these attributes may actually depend on the quality of its property management. For example, a well-maintained landscape of a housing is an important attribute to be considered by the buyer (Hui, 2011).

In residential property, there is one thing that is important in determining the price and ownership status of the property, aside from values/points that has been overlooked in the academic literature, which is property management (Li and Monkkonen, 2014).

Development of a housing site has an implication towards a land's value and price. A land's value and price enhancement process does begin with the progress of a region's function and role. If productivity and good transportation cause a region to progress, the utilization and usage of that region

will also rise intensively and extensively (Hilman, 2004).

Housing is a group of houses that works as a residential environment that equipped with basic environmental infrastructures, such as clean water, waste disposal, electricity, telephones, roads that allows the housing to function properly; and the means of environment that act as the supporting facility which organize and develop the economic, social and cultural aspects of life, such as playground facility, sports, education, shops, transportation facility, security and other public facilities (Keman, 2005).

There are three major factors required in a building; strength, function and aesthetics. In order to provide good building form, there are four major factors required; aesthetics, structure, layer/skin and building supplies. A building's form and design will affect its selling price. Complexity, skills required and an up-to-date design like the Mediterranean

style, minimalist style or tropical style will create a high selling price. However, a property can be considered appealing if the design and form meets the market's demand (Tjiptono and Afandi, 2006).

(Tjiptono, 2001) propose about brand image which is a description about consumer trust an association to a certain brand. That is why the development of a brand's image, especially a positive one, became an important thing. Because without strong and positive image, it is very hard for a company to attract new customers and retaining/keeping the existing ones, in the same time asking them to pay a high price.

Currently, housing is a growing property in Indonesia, especially in Medan. A housing usually consists of infrastructures that support its resident's daily life. In this research, the subject of research is located in Kecamatan Medan Johor. Housing in this area is growing rapidly. The housing to be researched on is Citra Wisata Residence, which is a middle-upper class housing and has very good management.

Problems to be included in this research is whether the location, facility, design, environment and the reputation of a housing will have an effect on the value of a property, in this case Citra Wisata Residence. Goal of this research is to analyze and find out how big the location, facility, design, environment and reputation of the housing affect the value of Citra Wisata Residence, partially and simultaneously.

## 2 LITERATURE REVIEW

### 2.1 Physical Factors

Physical factors can affect the value of land and buildings on a property. These factors are formed naturally or by human hands. Naturally, it is formed from the land itself, such as topography, soil, climate, air, water, reach and location, plants and animals, and others. Whereas those formed through human hands such as the size and area determined, the shape of the building (design), facilities, security, public transportation, environmental conditions, roads and communication (Setiawan, 2006).

Each property unit has its own characteristics and differentiation, including residential property. Housing location attributes, building facades and layout plans, for example, differ from one house to another. At a greater level, housing will be different from the others, because it will have a different

environment, different lifestyles, different presence and many others. These characteristics are the main primary preferences for consumers when choosing housing products to live in (Rahadi, 2015).

### 2.2 Property Value

The dynamics of housing property prices differ between small, medium and large types of housing. Housing property prices are viewed from the type of house which also reflects the different classes of needs and income in the community. Houses can become luxury items for small type segments whose demand is driven by the need to be occupied. However, this can be different for large types of requests that will be encouraged other than by the need for consumption but also investment or even speculation (Lestariningsih and Basuki, 2014).

Real estate valuation is an important compiler for every business. Because land and property are important elements needed for the production of goods, the value of real estate depends on its usefulness and therefore demands the product to be produced. Property values are influenced by a number of factors including the general economy, product demand and supply, financial availability, legal impact, planning systems, physical constraints, and social elements and other economic systems that affect the market. Assessment is the process of determining property values by assessing all economic, social, legal, physical and political factors that affect prices. As a final product, the assessment process will determine the value of the property market by estimating the exchange rate, which will be used for property transactions in the market at a certain time (French, 2004).

Based on the economic theories of externalities, the fixed nature of real property implies that the value of individual properties is partially determined by the characteristics of the surrounding neighbourhood and the characteristics of nearby buildings. Whether real estate development is followed by an increase in property values depends on both positive and negative externalities (Kurvinen dan Tyvimaa, 2016).

## 3 METHOD

Population of this research is resident in Citra Wisata Residence consisting 490 families. The investigated sample are 82 families based on Slovin formula with margin error 10%. Observation and questionnaire were used to collect data. Validity and

reliability test are used to test the questionnaire. Furthermore, SPSS and STATCAL are used to perform classical assumption test and multiple regression analysis (Gio, 2015).

## 4 RESULT AND DISCUSSION

### 4.1 General View of Citra Wisata Residence

Citra Wisata residence is one of many well-organizes residence in Medan Johor area that still keeping its existence up until now since 1998. The residence, which was built on ±2 hectares land have some facility such as public swimming pool, place of worship, shops, lake, open space/park that supports the residents daily activities and also the roads inside the residence is well circulated which gives easy access for the residents.

### 4.2 Validity and Reliability Test

#### 4.2.1 Validity Test

The result of 40 questions which consist of 7 questions from the location variable (X<sub>1</sub>), 9 questions from the facility variable (X<sub>2</sub>), 12 questions from the design variable (X<sub>3</sub>), 9 questions from the environment variable (X<sub>4</sub>) and 3 questions from the housing reputation variable (X<sub>5</sub>) are considered valid because all of these items meet the requirements of validating test which is the value of Corrected Item Total Correlation > 0.361 (R Table).

#### 4.2.2 Reliability Test

Reliability test was done to valid questions. If the Alpha Cronbach value is bigger than 0.8 then the research questionnaire is reliable (Augustine and Kristaung, 2013). It is known that the questionnaire is reliable because the Alpha Cronbach value is bigger than 0.8. Table 1 is displayed reliability test.

Table 1. Reliability test

Variable	Cronbach Alpha	Result
Location	0.971	Reliable
Facility	0.972	Reliable
Design	0.972	Reliable
Environment	0.971	Reliable
Housing Reputation	0.972	Reliable

### 4.3 Classical Assumption Test

#### 4.3.1 Residual Normality Test

The assumption test of normality uses Kolmogorov-Smirnov test. Based on the result of normality test with Kolmogorov-Smirnov test, the value of p-value (p) is 0.141 which is greater than significance level 0.05, then normality assumption of residuals is satisfied.

#### 4.3.2 Heteroscedasticity Test

Heteroscedasticity test uses Glejser test. Based on Glejser test in Table 2, all values of Sig Glejser for each independent variable < 0,05. Therefore there is no heteroskedasticity.

Table 2. Heteroscedasticity Test with Glejser Test

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.332	.242		-1.375	.173
	Location (X <sub>1</sub> )	-.029	.043	-.078	-.684	.496
	Facility (X <sub>2</sub> )	.003	.036	.012	.092	.927
	Design (X <sub>3</sub> )	.057	.042	.185	1.365	.176
	Enironment (X <sub>4</sub> )	.047	.045	.116	1.052	.296
	Housing Reputation (X <sub>5</sub> )	.058	.032	.240	1.842	.069

a. Dependent Variable: Glejser Heteroskedasticity

#### 4.3.3 Multicollinearity Test

Multicollinearity test uses variance inflation factor (VIF). The expected VIF is less than 10 indicating there is no multicollinearity symptom. Based on the multicollinearity test result in Table 3, VIF for each independent variable are less than 10 indicating there are no multicollinearity symptom.

Table 3. Multicollinearity Test with VIF

Variable	VIF	Conclusion
Location	1.173	No multicollinearity
Facility	1.460	No

		multicollinearity
Design	1.654	No multicollinearity
Environment	1.095	No multicollinearity
Housing Reputation	1.522	No multicollinearity

#### 4.4 Hypothesis Testing

##### 4.4.1 Multiple Linear Regression

In this research, multiple linear regression is used to test the hypothesis. This method is used to analyze the magnitude of influence between independent variable of location ( $X_1$ ), facility ( $X_2$ ), design ( $X_3$ ), environment ( $X_4$ ), and housing reputation ( $X_5$ ) to dependent variable ( $Y$ ) that is property value. Table 4 is displayed the result.

Table 4. Multiple Linear Regression Result

Variabel	Sig.	Result
Location	0.686	Not Significant
Facility	0.046	Significant
Design	0.047	Significant
Environment	0.603	Not Significant
Housing Reputation	0.044	Significant

##### 1) Simultaneously Test (F test)

Based on simultaneously test with F test, the value of Sig. is 0,000 and the value of F statistic is 7,444. Since Sig. 0,000 < 0,05 and F statistic 7,444 > 2,334 (F critical value), then the simultaneous effect from all of the independent variables (location, facility, design, environment, housing reputation) statistically significant to the property value.

$$Y = 0,154 + 0,028X_1 + 0,115X_2 + 0,133X_3 + 0,037X_4 + 0,103X_5 + e$$

##### 2) Partial Test (t Test)

Based on partial test with t test in Table 4 :

1.  $H_1$  : The regression coefficient of location is 0,028 with Sig. 0.686 > significance level 0,05, then location does not have significant effect on property value. It means that the hypothesis is rejected.
2.  $H_2$  : The regression coefficient of facility is 0,115 with Sig. 0.046 < significance level 0,05, then facility has significant effect on property value. It means that the hypothesis is accepted.

3.  $H_3$  : The regression coefficient of design is 0,133 with Sig. 0.047 < significance level 0,05, then design has significant effect on property value. It means that the hypothesis is accepted.
4.  $H_4$  : The regression coefficient of environment is 0,037 with Sig. 0.603 > significance level 0,05, then environment does not have significant effect on property value. It means that the hypothesis is rejected.
5.  $H_5$  : The regression coefficient of housing reputation is 0,103 with Sig. 0.044 < significance level 0,05, then housing reputation has significant effect on property value. It means that the hypothesis is accepted.

##### 3) Coefficient of Determination

The value of coefficient determination ( $R^2$ ) is 0,329. It means that location, facility, design, environment and housing reputation can affect property value as 32,9%, with 67,1% for other factors.

## 5 CONCLUSIONS

Property value of Citra Wisata Residence is affected by variables such as facility, design and residence reputation that can be seen from the result of this research, which concluded that those three variables have a positive and significant impact to property value. Can be said that the main thing that the respondents seek is the comprehensiveness of the facility inside the residence, design, and also the impression of the house when choosing the desired residence.

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