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Analysis of Factors Affecting the Rental Value of Business Space in Jayapura Regency and Jayapura City

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Abstract

This study examines the factors that influence the rental value of business space in Jayapura Regency and Jayapura City. This study aims to understand the relationship between business space specifications and supporting facilities, and their impact on business space rental prices. The analysis conducted using multiple linear regression identified several significant factors that influence rental prices. The results of the study indicate that the area of space and the rental period have a negative effect on rental prices, meaning that the larger the space and the longer the rental period, the lower the rental price per square meter. On the other hand, the presence of facilities such as air conditioning, parking, water, and cleanliness have a positive effect on rental values, with business spaces that have these facilities having higher rental prices. In addition, the designation of the area also has an effect, where commercial areas have higher rental prices compared to office or residential areas. This study uses primary data collected through surveys and interviews with business space owners, tenants, and property managers in the area. This study provides valuable insights for tenants and business space owners

to better understand the dynamics of the business space rental market in Jayapura and provides recommendations for optimizing business space rental prices through improving facilities and selecting strategic locations..

Cata Key:*Rental Value, , Multiple Linear Regression, Business Space*

Abstract

This study examines the factors influencing the rental value of business spaces in Jayapura Regency and City. The aim of this research is to understand the relationship between the specifications of business spaces and supporting facilities, and their impact on rental prices. The analysis, conducted using multiple linear regression, identifies several significant factors affecting rental prices. The results indicate that the size of the space and the lease duration have a negative impact on rental prices, meaning that the larger the space and the longer the lease duration, the lower the rent per square meter. On the other hand, the presence of facilities such as air conditioning, parking, water, and cleaning services positively influences the rental value, with spaces offering these facilities commanding higher rental prices. Additionally, the zoning of the location also plays a role, with commercial areas having higher rental prices compared to office or residential zones. This study uses primary data collected through surveys and interviews with business space owners, tenants, and property managers in the area. The findings provide valuable insights for both tenants and property owners to better understand the dynamics of the business space rental market in Jayapura and offer recommendations for optimizing rental prices through improved facilities and strategic location selection.

Keywords:*Rental Value, Multiple Liner Regression, Business Space*

INTRODUCTION

The rental value of business space in Jayapura Regency/City is one of the important indicators that reflects the economic dynamics and market potential in this region. The Regency/City has very unique geographical and social characteristics, which affect various aspects of people's lives, including the economic sector. Behind its abundant natural potential, the region faces major challenges in developing infrastructure and accessibility that can affect the attractiveness of business space. Therefore, it is important to understand in depth the factors that affect the rental

value of business space in this region, especially those related to the specifications of the business space itself.

In the context of economics, the rental value of business space is not only influenced by external factors such as location and infrastructure, but also by more specific internal factors related to the characteristics of the space itself. According to microeconomic theory, the rental price of business space is formed through the interaction between demand and supply (Mankiw, 2016). The demand for business space is directly related to factors such as size, design, facilities and quality of existing buildings, while supply is influenced by the availability of business space that meets these criteria. For example, larger business spaces are usually valued higher because they provide more flexibility for entrepreneurs in running their business activities. In this case, the design of a functional business space that can be adjusted to the needs of entrepreneurs will increase the value of the space. Marshall's utility theory (1890) explains that business spaces that provide comfort and efficiency for tenants will be more in demand, so they can get higher rental prices. This is very relevant in Papua, where business sectors such as trade and services require space that can adapt to the characteristics of their operational activities.

In addition to size and design, facilities, the physical quality of the building is also a factor that greatly influences the rental value of business space. Buildings with sturdy structures, quality materials, and supporting facilities such as good ventilation systems, stable electricity supply, and adequate water access will provide a sense of security and comfort for entrepreneurs. This will certainly increase the attractiveness of tenants to the business space. Higher building quality can also reduce maintenance and repair costs that may have to be incurred by tenants, thus allowing for higher rental prices. The "Capital and Quality" theory proposed by Solow (1957) shows that the quality of a property or asset can increase productivity and operational stability that underlies the high market value of a business space.

Supporting facilities around the business space are also important factors that can increase rental value. Access to facilities such as parking areas, cleanliness, and the surrounding area of the business space can facilitate business operations, especially for businesses that depend on the distribution of goods or shipping. In Jayapura Regency/City, areas with limited transportation access can affect the operational costs of entrepreneurs, which ultimately also affects their decisions in choosing a business location. In line with the transaction cost theory put forward by Coase (1937), the higher the cost required to access the location of a business space,

the lower the value that will be received from the space. Therefore, a location that is easily accessible by large vehicles or has access to ports and airports will greatly increase the rental value of the business space.

In addition, environmental factors around the business space are also no less important. Environmental cleanliness factors can influence tenants' decisions in choosing business space. According to Duranton and Puga (2004), a safer and more well-organized environment has greater appeal because it creates a sense of comfort for entrepreneurs and employees, and encourages efficiency in business operations. Setiawan's research (2018) concluded that the market value of land or building rentals for ATM placement is influenced by strategic location, accessibility, and security.

Overall, the factors that affect the rental value of business space in Papua Island cannot be viewed only from external aspects such as location and infrastructure, but must also consider the specifications of the business space itself, which include size, design, building quality, supporting facilities, and environmental conditions. A deep understanding of these factors will provide a clearer picture for entrepreneurs and property developers to plan business spaces that are in accordance with market needs, as well as for the government in formulating policies that can support the development of the business sector in Papua.

RESEARCH METHODS

This research was conducted in Jayapura Regency and Jayapura City as the main research locations. This area was chosen because it has unique characteristics, both in terms of geography, social, and economy. As an area rich in natural resources but facing challenges in terms of infrastructure and accessibility, the area is a relevant place to study the factors that affect the rental value of business space. This study consists of 2 main variables, namely area in square meters, rental period (period). While the dummy variables in this study are D1 (type of rental object in the form of land and buildings or land), D2 (availability or absence of air conditioning facilities in the business space), D3 (availability or absence of parking facilities), D4 (availability or absence of water facilities), D5 (availability or absence of cleaning facilities) and D6 (designation of the location of the business space whether commercial, office and residential). The research model is formulated as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 D_5 + \beta_6 D_6 + \varepsilon i$$

Information:

Y	:	Price or rental value of business space in rupiah units
β_0	:	Constants
X_1	:	Area of business premises in square meters
X_2	:	Lease term/Rental period in years
D_1	:	Type of rental object (land and building or land)
D_2	:	Air conditioning facilities, AC = 1, no AC = 0
D_3	:	Parking Facilities, parking available = 1, no parking = 0
D_4	:	Water Facilities, there is clean water = 1, no clean water = 0
D_5	:	Cleaning facilities, cleaning service available = 1, no cleaning service = 0
D_6	:	Designation of business space area, 1 = commercial, 0 = residential

The data used in this study consists of primary and secondary data. Primary data was obtained through surveys and interviews with business owners, business tenants, and property managers. The data collection process was carried out using a structured questionnaire designed to collect information on factors that influence the rental value of business space, such as space conditions, supporting facilities, and location. In addition, supporting secondary data, such as information on the designation of the area taken from the relevant agencies. To analyze the data, a multiple linear regression method was used with the help of EViews software. This approach allows for identifying the relationship between the rental value of business space (dependent variable) and a number of independent factors, such as space size, building quality, existing facilities, and location accessibility. This multiple linear regression model is expected to provide an overview of the contribution of each factor to the rental value of business space in the Regency/City. This study uses cross-section data. Cross-section data refers to data collected at a certain point in time in various locations. By using this data, this study will provide a more comprehensive overview of the dynamics of the business space market in Jayapura Regency/City.

RESULTS AND DISCUSSION

By using the eviews 10 application analysis tool, the results of the multiple linear regression test from the study are as follows:

$$Y = 541{,}089.6 - 2{,}669{,}914X_1 - 37{,}363.98X_2 + 126{,}666.6D_1 + 150{,}898.17D_2 + 90{,}848.17D_3 + 51{,}988.39D_4 + 28{,}388.89D_5 + 211{,}839.7D_6 + \varepsilon_i$$

Coefficient of Determination

The coefficient of determination (R^2) is used to measure the ability of the model to explain the variation of the dependent variable. The value is between zero and one ($0 < R^2 < 1$). An R^2 value approaching 0 (zero) indicates that the ability of the independent variable to explain the variation of the dependent variable is very limited. A value approaching 1 (one) indicates that the independent variable contains almost all the information needed to predict the variation of the dependent variable. The Eviews output display shows the adjusted R^2 value of 0.681679, which means that 68.16% of the variation of the dependent variable can be explained by the variation of the independent variable, while the remaining 31.84% is explained by other causes outside the model.

F Test

The F test is conducted to see the influence of independent variables on the dependent variable as a whole. For this F test, the following hypothesis is used:
H0 : $\beta_1 = \beta_2 = \cdots = \beta_k = 0$ (no effect)

The F test is performed by comparing the F-calculation value with the F-table. If the F-calculation > F-table then H0 is rejected, meaning that the independent variables simultaneously affect the dependent variable. Based on the Eviews output table, a probability value (Prob F-Statistic) of 0.000020 is obtained. The probability is much smaller than 0.05, so it can be concluded that the regression coefficient of the independent variables is not equal to zero and simultaneously affects the rental price.

t-test

The t-test is conducted to see the significance of the influence of independent variables on dependent variables individually and assumes other independent variables are constant. The t-test uses the following hypothesis:

H0 : β i= 0

H0 : β i ≠ 0

Where β i is the coefficient of the i-th independent variable, the value β generally considered = 0. This means that there is no influence of variable X1 on Y. If the calculated t value > t table (or the probability value of t < 0.05), then at a certain level of confidence, H0 is rejected. This means that the independent variables tested have a significant effect on the dependent variable. The results of the t-statistic test show that variables X1, X2, D1 and D2, D3, D4, D6 have an effect on Y with a significance value of 0.05, while variable D5 has no effect on Y because the probability is above 0.05, which is 0.7951.

Classical Assumption Test

To produce a valid estimation of the parameter value of the estimator model, the use of the Ordinary Least Square (OLS) Model must meet the assumptions of no autocorrelation, no multicollinearity and no heteroscedasticity. If all of these classical assumptions have been met, it will produce the best, linear, unbiased, efficient of estimation (BLUE) regression results.

Autocorrelation Test

Autocorrelation testing is used to see whether or not there is a deviation from the classical assumption of autocorrelation, namely the presence of a correlation between the disturbing error in period t and the disturbing error in the previous period. The interpretation of the results of the Lagrange Multiplier (LM) test is as follows. The hypotheses proposed in the LM test are: H0: no autocorrelation, Ha: there is autocorrelation. If the p-value of the Obs*R-squared value is statistically significant (less than 0.05) then H0 is rejected (no autocorrelation).

Table 1. Autocorrelation Test

F-Statistic 2.270872	Prob. F (2,45) 0.1171
Obs* R-Squared 5.337985	Prob. Chi-Square (2) 0.0693

From the results of the LM test, there is no indication of autocorrelation, this is indicated by the statistically significant Obs*R-squared value (p value = 0.0693). The results of this LM test indicate that there is no autocorrelation in the regression model.

Multicollinearity Test

Multicollinearity is a condition that indicates that one or more explanatory variables can be expressed as a linear combination of other explanatory variables. If there is high multicollinearity (for example, VIF is more than 10), it indicates that the independent variables are highly correlated with each other. This can cause difficulties in interpreting the regression coefficient, because we cannot know which variable has the most influence on the dependent variable. Based on the results of the multicollinearity test in the regression model, no symptoms of high multicollinearity were found in the regression model.

Table 2. Multicollinearity Test

Variables	Variance Inflation Factor (VIF)
X1	2.46
X2	1.30
D1	1.39
D2	3.57
D3	2.80
D4	3.76
D5	3.35
D6	1.76

Heteroscedasticity Test

Heteroscedasticity occurs when the disturbance variable does not have the same variance for all observations, the consequence of heteroscedasticity is biased

variance. This shows that the significance test is valid. The hypothesis proposed in this test is: H0: no heteroscedasticity, Ha: there is heteroscedasticity.

Table 3. Heteroscedasticity Test

F-Statistic 1.613220	Prob. F (2,45) 0.2106
Obs* R-Squared 3.211290	Prob. Chi-Square (2) 0.2008

The output above shows that the Obs* R-squared value has a significant Chi-square probability value.
(p value = 0.2008). Therefore Ho is accepted which shows that there is no heteroscedasticity in the model.

Research result

From the research results, it can be concluded that the factors that influence business space in Jayapura city/district are as follows:

Table 4. Results of Regression Analysis

No	Variable Name	Direction of Influence	Magnitude
	Leased Object	Positive	
1.	Land and Building		Rp126,666.6
2.	Land		
3	Wide	Negative	Rp2,669,914
	Facility		
4.	There is AC	Positive	Rp150,898.2
5.	No AC		
6.	Parking	Positive	Rp90,848.17
7.	No Parking		
8.	Water Facilities	Positive	Rp51,989.39
9.	No Water		

10.	Cleanliness	Positive	Rp28,388.89
11.	No Cleanliness		
	Allocation		
12.	Commercial	Positive	Rp211,839.7
13.	Office	Negative	Rp115,408.9
14.	Residential		
15.	Period	Negative	Rp37,363.98
Constants	Rp541,089.6		
R-Square	0.681679		
Prob (F-Statistic)	0.000020		

a. The area of business space per square meter has a significant negative effect on the rental value of business space. This shows that the larger the business space that is rented, the lower the rental value per square meter. The results of this study are in accordance with Nurhayati (2018) who found that the building area has a significant negative effect on the rental value per square meter - the larger the area of the shophouse, the lower the average rental value per m^2 agreed upon by the owner and the tenant.
b. The annual rental period significantly negatively affects the rental value of business space. This shows that the rental price will decrease in price per year if the rental period of the business space is longer. The results of this study are in accordance with Nurhayati (2018).
c. The difference in facilities in the form of air conditioning in the business space has a positive effect on the rental price of the business space, where the business space that has air conditioning has a higher rental value. The results of this study are in line with Nurhayati (2018); Hasanah & Pradipta (2017) which show that business spaces equipped with AC have a higher rental value.

d. The difference in parking in a business space in the form of air conditioning has a positive effect on the rental price of business space, where business spaces that have parking facilities have a higher rental value. The results of this study are in line with research conducted by Nurhayati (2018); Hasanah & Pradipta (2017) and Rahmawati (2019) who consistently found that the availability of parking had a significant positive effect on the rental price of business space, because good parking increases accessibility, comfort, and potential business income.
e. The difference in facilities in the form of water in the business space has a positive effect on the rental price of the business space, where the business space that has water facilities has a higher rental value. The results of this study are in line with Nurhayati (2018); Rahmawati (2019) and Kim & Park (2016) showing that the availability of clean water has a significant positive effect on the rental value of the business space.
f. The difference in facilities in the form of cleanliness in business space has a positive effect on the rental price of business space, where business space that has cleanliness facilities has a higher rental value. This study is in line with the results of Nurhayati (2018); Rahmawati (2019) and Kim & Park (2016) but contradicts the results of research by Arifin & Sari (2020) and Kuncoro et al. (2018).
g. Differences in the designation of the inner area have a positive effect on the rental price of business space, where business space located in a commercial area has a higher rental price. The results of this study are in accordance with Rahmawati (2019) and Kim & Park (2016) who show that the designation of an area as a commercial zone has a significant positive effect on the rental price of business space. This is because commercial areas support transaction intensity, legality, and perception of value for tenants. However, the results of research by Nurhayati (2018); Arifin & Sari (2020) and Kuncoro et al. (2018) are different, stating that in several areas it shows that even though the designation of the area is designated as commercial, this does not automatically make the rental price of

business space higher - due to the influence of other factors such as micro location, accessibility, and local market demand.

CONCLUSION

Based on the research results, it was found that the rental price of business space in Jayapura City and Jayapura Regency was influenced by several factors related to the specifications of the business space and the facilities that support the business space. This can be seen from the results of the multiple linear regression test that has been carried out. The area factor and the rental period factor have a negative effect on the rental price of business space, this shows that the larger the space and the longer the rental period of the business space, the lower the rental price per square meter of the business space will be. Meanwhile, facility factors such as air conditioning, water, parking and cleanliness have a positive effect on the rental price of business space. With this research, both tenants and business space owners can pay more attention to supporting facilities in a business space in order to appreciate the rental value of the business space.

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