Study of Building Maintenance Against User Convenience of the Kandilo Plaza Shopping Center Building

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Abstract: The construction world will certainly not be separated from the maintenance of the building. What is meant by maintenance is a way to maintain the function of the building itself. Maintenance (maintenance) in the building is very influential at the time of the building completed or built and will be used for user activities building. Maintenance results are expected to minimize damage caused by occur in buildings and is able to provide a sense of comfort for building users shopping center while inside the building. This study aims to find out the results of maintenance that has been done so far in the building Kandilo Plaza shopping center and know the effect of building maintenance to the level of comfort of building users. By using techniques random sampling of 300 samples of respondents was taken in this study. Data collection techniques in this study using questionnaire results respondents and observations. Data obtained in the analysis using multiple linear regression analysis methods, with the help of SPSS applications. Result research shows the maintenance of buildings carried out by the kandilo Plaza shopping center building management is relatively good although there is still something that needs to be improved such as cleanliness. By testing and processing data obtained sig results = $0.000 < \alpha = 0.05$ which means simultaneously variable components of architecture, structure, mechanical and electrical significant impact on the comfort of building users and visitors with a magnitude of 17.2 %. In addition to partial testing obtained results of each - each building maintenance variable affects the level of visitor comfort.

Keywords: comfort; architectural components; structural components; electrical components; mechanical components

1. Introduction

The world of construction will definitely not be separated from building maintenance or maintenance. Maintenance of the building is very important and necessary after the building is completed and used for building user activities. The results of maintenance that make the building's life longer than planning can be seen in terms of strength, safety and appearance of the building. According to Wulfram (2007) From year to year there are always many new buildings with various shapes and sizes appearing [1]. One of them is the building of a shopping center, for shopping centers it is very common to find in big cities even in small cities there are already shopping centers. Like in Tanah Grogot District, which is located in Paser Regency, East Kalimantan, namely Kandilo Plaza. Kandilo Plaza is the largest shopping center in Paser Regency, which is located in Tanah Grogot District which has an area of 33,580 hectares.

Kandilo Plaza was founded in 2001 and completed in 2003 by the local government and its management is under the regional technical implementation unit of the Kandilo plaza, where the Kandilo Plaza building was immediately used in 2003. The kandilo plaza shopping center

building is very minimal in terms of maintenance or maintenance of the building. This is because from 2003 to 2020 there was only one treatment, both maintenance, maintenance, and improvement, with the form of handling being the rehabilitation and painting of Kandilo Plaza.

Kandilo Plaza as the largest shopping center in Paser regency certainly has a lot of space used for building users, the amount of space used is definitely inseparable from the comfort for users and visitors in the building. As the age of a building gets older, it will not be separated from the damage to a building which must require maintenance and maintenance of the building so that the building remains in a proper and comfortable condition to use. According to Indra (2011) With regular maintenance can minimize damage so that repair costs are not high enough [2]. According to Sucipto T (2009) One of good maintenance can give effect to cost and time savings, and can provide longer benefits so as to support better building performance [3]. The building will be maintained to achieve service lifetime to fit the planned even exceed it. The purpose of building maintenance is to ensure that the building reaches its functionality according to the requirements and desires of the owner and users of the building.

Based on the explanation above, the authors conducted research on the maintenance of the Kandilo Plaza shopping center building located on Jl. Kandilo Bahari, Tanah Grogot, Paser Regency, East Kalimantan. By maintenance in question is the components that the researcher has reviewed or the researcher has carried out field observations and interview activities with the facilities and infrastructure, so it has been found that many damaged components in the building have been found. Based on previous researchers who reviewed the comfort of building users and the low quality of building maintenance and maintenance, in this study, researchers used the Multiple Linear Regression Analysis method to examine and model the relationship between more than one independent variable. The goal is to estimate the average and value of the dependent variable based on the value of the independent variable and to test the dependency characteristic hypothesis and to predict the mean value of the independent variable based on the value of the independent variable outside the sample range in the implementation of building maintenance that has been carried out so far in the building Kandilo Plaza shopping center and knowing the effect of building maintenance on the convenience of shopping center building users. The hope of this research is that it can be taken into consideration in the implementation of maintenance and maintenance activities in the building by reviewing the comfort of building users so that the advantages and disadvantages of the building can be identified.

2. Research Method

The method used in this study was to use quantitative descriptive analysis by processing descriptive data and data Quantitative. Descriptive data in the form of supporting documents, field records and interview. Quantitative data in the form of data information related to numbers that have been collected and processed.

2.1 Data Collection Technique

The data collection technique is a research method, which is basically a scientific way that includes research activities that will be used to obtain data for specific purposes. The research in this final project uses the following research data:

1. Literature method, where the input of the planning process is obtained by collecting, identifying, processing written data and working methods.
2. Observation method, where the observation process is carried out directly to the research location to find out the actual conditions in the field.

The approach used in this research is a quantitative approach with research activities based on systematic science. Systematic is a process of research activities that is logical in nature with the formation of a system as a whole, structured and in detail. The quantitative approach aims to develop a mathematical model, theory and hypothesis related to natural phenomena. The

quantitative approach is conceptual and describes many things statistically to test the truth of a theory that results in a fact.

2.2 Flowchart
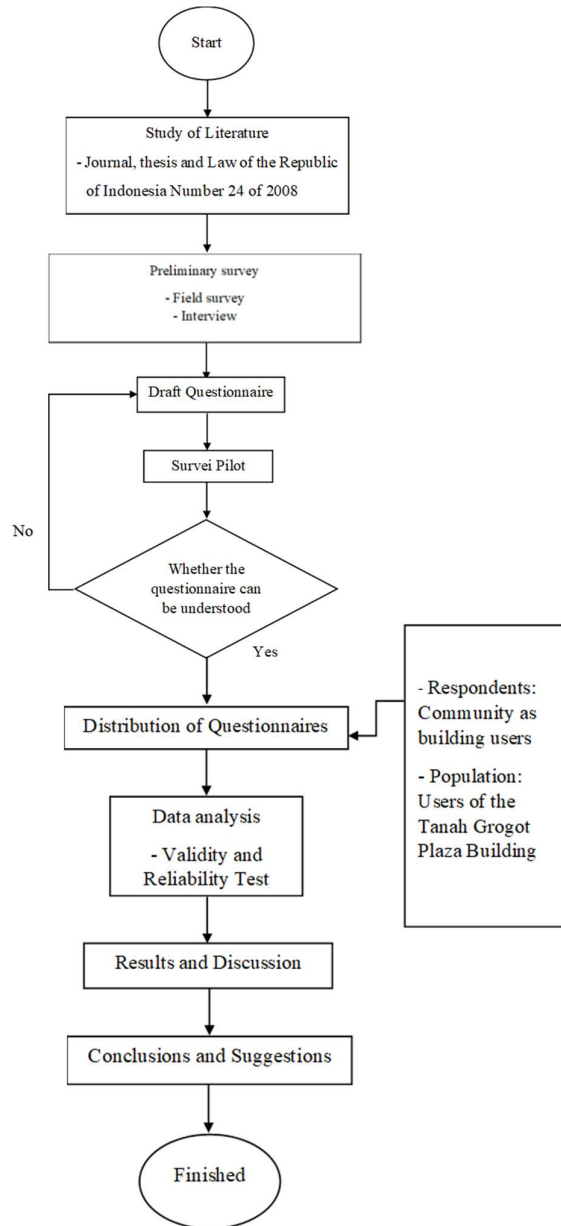
Fig. 1. Flowchart

2.3 Preliminary Survei

A preliminary survey was conducted to validate the variables from previous research results. This survey is useful for assessing the relevance of existing indicators. This survey is carried out by conducting direct observations or observations at the location of the field and documenting the damage that has occurred to the components in the building and using the interview form. In this study, interviews and questionnaire filling were assisted by 6 (six) experts to ensure that the variables were verified before distributing them to respondents. The 6 (six) experts can be seen in Table 1 below:

Table 1. Expert Respondent Data

No	Position	Education	Work Experience	Number of Project Involvement
1	*Project Manager*	S1	> 20 Year	> 10 Project
2	*Lecturer*	S2	> 20 Year	8 – 10 Project
3	*Inspector / Surveyour*	D4	10 – 20 Year	5 – 7 Project
4	KASI (Head of Section)	S1	5 – 10 Year	> 10 Project
5	*Supervisor*	S1	10 – 20 Year	> 10 Project
6	*Cdfield Staff Arsitek*	S1	5 – 10 Year	5 – 7 Project

2.4 Eligibility and distribution of questionnaires

The feasibility of the questionnaire is to assess whether the questionnaire is feasible to be distributed and understandable or not is to first test the mean against a small sample of the pilot survey before distributing the questionnaire to all sample plans. The distribution of questionnair is carried out using a draft questionnaire that has been processed beforehand and has been verified by several experts. The questionnaire was distributed to a sample, namely users of the Kandilo Plaza building, which means building users in this study are sellers or traders who occupy the room or kiosk and visitors who make purchase transactions.

2.5 Data Analysis

According to Sugiyono (2008), argues that "Data analysis is an activity after data from all respondents are collected [4]. Activities in data analysis are grouping data based on variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable studied, performing calculations to answer problem formulations, and performing calculations to test hypotheses that have been proposed ". The data of this research were analyzed using multiple linear regression analysis which previously tested the validity and reliability test where in this stage the classical assumption test was carried out which consisted of normality test, autocorrelation test, linearity test, multicolinearity test, and heteroscedasticity test. Then, testing the hypothesis (T test and F test) and analysis of the coefficient ofof determination using the SPSS tool.

2.5.1. Validation test

The validation test is the first test carried out from the results of data tabulation to determine the level of validity of the questions given to respondents. This test was carried out using the SPSS version 25 program.

2.5.2. Reliability Test

Azwar (2012) states that reliability can be called consistency, reliability, trustworthiness, stability, and consistency [5]. A measurement is said to have good reliability if several measurements of the subject group are obtained the same results, but if the difference is large enough, the measurement is said to be unreliable.

2.5.3. Classic assumption test

The classical assumption test was performed as a requirement for multiple linear regression analysis. According to Aligifari (2000), it aims to obtain a multiple linear regression model that produces the best unbiased linear estimator or best linear unbias estimator [6].

2.5.4. Normality test

The normality test aims to determine whether the confounding or residual variables have a normal distribution. As a basis, the t test and F test assume that the residual value follows a normal distribution. If this assumption is violated, the regression model is considered invalid by the

number of samples.

2.5.5. Autocorrelation test

The autocorrelation test aims to test whether the linear regression model has a correlation between confounding error in period t and confounding error in the previous period (t-1).

2.5.6. Multicolinearity test

Multicolinearity test is used to test the model whether there is a perfect or almost perfect relationship between the independent variables, so it is difficult to separate the influence between the variables individually to the dependent variable.

2.5.7. Heteroscedasticity Test

Heteroscedasticity test is used to simulate variable regression model from the residual of one observation to another observation.

2.5.8. The T test

The T test, known as the partial test, is used to see the effect of each independent variable on the dependent variable.

2.5.9. The F Test

The F test is used to see the effect of the independent variables together (simultaneously) on the dependent variable

2.5.10. Coefficient of determination Test

The coefficient of determination test aims to measure the effect of the independent variable on the dependent variable in proportion (%).

2.6 Research variable

In this study, the researcher has 2 forms of variables, namely the independent variable and the dependent variable.

2.6.1. Independent Variable

In this study the independent variable is building maintenance which can be seen in Table 2 as follows:

Table 2. Independent variable

No	Variable	Indicator	Information	Reference
A	Architectural Components	Means of Exit	The way out must be equipped with an EXIT sign and must not be obstructed and meet the requirements in accordance with SNI	Permen PU No. 24/PRT/M/2008
		Ceiling	No leaks, cracks, sags and no stains	Permen PU No. 24/PRT/M/2008
		Locks, latches and hinges	Does not rust	Permen PU No. 24/PRT/M/2008
		Sliding door, rolling door, dan falding door	Works fine and nothing hiccups	Permen PU No. 24/PRT/M/2008
		Wooden Frame	Not dusty and color does not fade	Permen PU No. 24/PRT/M/2008
		Window	Does not break, crack and does not stain	Permen PU No. 24/PRT/M/2008

No	Variable	Indicator	Information	Reference
B	Structure Components	Wall	Does not crack and color does not fade	Permen PU No. 24/PRT/M/2008
		Roof	Does not leak and color does not fade	Permen PU No. 24/PRT/M/2008
		Floor	Does not break, crack and dull	Permen PU No. 24/PRT/M/2008
C	Mechanical Components	Air Conditioning System	Function properly clean and control on a regular basis	Permen PU No. 24/PRT/M/2008
		Fire protection system	Function well and complete	Permen PU No. 24/PRT/M/2008
		Plumbing System	Does not leak or break and get clogged	Permen PU No. 24/PRT/M/2008
		Building Transportation System	it is not dirty and functions well, does not break, crack or break	Permen PU No. 24/PRT/M/2008
D	Electrical Components	Electrical installation	The cable placement is neat and unobtrusive	Permen PU No. 24/PRT/M/2008
		Communication	The network is stable and easy to reach	Permen PU No. 24/PRT/M/2008
		Lighting	Placement is appropriate and bright	Permen PU No. 24/PRT/M/2008
		Alarm	Works fine	Permen PU No. 24/PRT/M/2008

2.6.2. Dependent Variable

In this study, the independent variable is the convenience of building users in shopping activities based on the maintenance of the Kandilo Plaza building.

3. Result and Discussions

3.1 Preliminary Survey Results

The preliminary survey in this study was carried out using those given to experts to validate the criteria that influence decision making in building maintenance which were sourced from previous research and from Ministerial Regulation No. 24 of 2008. From the results of the questionnaire distributed to 6 experts who gave the responses, the mean test was then tested which can be seen in the Table 3, where each indicator is sorted by mean value, the higher the mean value, the more influential the criteria as a determinant in making decisions in building maintenance.

Table 3. Expert response

No.	Indicator	1	2	3	4	5	6	Mean	Description
B2	Roof	4	5	5	5	5	5	4.83	Take Effect
A3	Lock, Grendel and Hinges	4	4	5	4	4	4	4.33	Take Effect
B1	Wall	4	5	3	4	5	5	4.33	Take Effect
B3	Floor	3	5	5	3	5	5	4.33	Take Effect
C2	Protection System Fire	3	5	4	5	5	4	4.33	Take Effect
C3	Plumbing system	4	5	3	5	5	4	4.33	Take Effect
C4	Building Transportation System	4	5	4	3	5	5	4.33	Take Effect

No.	Indicator	1	2	3	4	5	6	Mean	Description
D1	Electrical iinstallation	3	5	5	4	5	4	4.33	Take Effect
A2	Ceiling	4	4	5	4	4	4	4.17	Take Effect
C1	Availability fan/ac	3	5	4	4	4	5	4.17	Take Effect
A4	Sliding door, rolling door,falding door	3	5	4	3	5	4	4.00	Take Effect
A1	Road facilities go out	2	4	4	3	5	5	3.83	Quite Influential
A6	Window	3	4	4	3	4	5	3.83	Quite Influential
D3	Lighting	2	5	4	3	4	5	3.83	Quite Influential
A5	wooden iframe	3	3	4	2	4	5	3.50	Quite Influential
D4	Alarm	2	5	4	3	4	5	3.50	Quite Influential
D2	communication	3	4	3	2	5	4	3.33	Quite Influential

Source: Processed by Researcher, 2021

The mean of each indicator must be higher than 3.00 so that the indicator is considered influential to be a determinant in decision making. So with that 17 indicators on building maintenance criteria are considered influential as indicators for determining decision making that will be used in the questionnaire survey.

3.2 Survey Pilot Data Results

Survey pilots are used to assess whether questionnaires are eligible for distribution and to benchmark respondents' understanding of each indicator in the questionnaire content. Questionnaires submitted to pilots are questionnaires that indicators has been reduced from the preliminary survey. The number of respondents to the survey pilot amounted to at least 10% of the planned sample count (Conelly, 2008). Thus, in this study the number of respondents taken for the survey pilots as many as 10% of the 300 respondents were 30 randomly selected samples from the total number of user and visitor respondents. The indicators in the survey pilot amounted to 17 indicators. Recapitulation of respondents' data can be shown in Table 4.

Table 4. Pilot Response

No.	C3	A1	A2	B3	A6	B2	A3	A5	A4	D3	C2	D1	D4	B1	C1	D2	C4
1	4	5	5	4	4	4	5	4	5	5	3	3	3	4	2	3	3
2	5	4	4	5	3	5	4	4	4	5	5	5	4	4	5	2	2
3	5	5	4	4	4	4	5	3	4	3	5	5	3	5	5	4	3
4	5	5	4	4	5	4	5	5	4	5	4	3	4	4	5	3	5
5	5	5	4	5	5	5	5	5	5	5	3	5	4	3	5	2	2
6	4	5	5	5	5	5	5	5	5	5	5	2	4	4	3	2	4
7	5	5	4	4	4	5	5	5	5	5	5	5	5	5	4	5	4
8	4	5	5	5	4	5	5	4	5	5	4	2	4	4	3	4	5
9	5	4	5	4	5	5	5	4	5	4	5	4	4	4	5	5	5
10	4	5	4	4	5	5	4	5	5	4	5	5	4	4	2	4	5
11	5	5	5	3	5	5	3	4	4	4	4	4	3	4	4	4	4
12	5	4	5	5	5	5	5	5	5	4	5	3	4	2	2	4	2

No.	C3	A1	A2	B3	A6	B2	A3	A5	A4	D3	C2	D1	D4	B1	C1	D2	C4
13	5	5	5	5	4	5	5	4	4	5	4	3	5	2	5	5	2
14	5	5	5	4	4	5	5	5	5	5	5	5	5	4	3	2	5
15	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	2
16	5	5	5	4	4	4	4	4	4	5	5	4	4	2	2	3	4
17	5	4	5	5	4	3	5	5	5	4	4	5	3	4	2	3	5
18	5	5	5	5	5	4	4	3	4	4	3	5	4	5	5	4	4
19	4	4	4	5	4	4	3	4	5	4	2	4	3	2	3	3	5
20	5	5	4	4	4	5	4	5	3	5	4	3	4	5	4	4	5
21	5	4	4	5	5	5	3	5	4	5	5	5	5	5	5	5	5
22	5	3	3	5	3	3	5	3	4	4	2	4	4	5	5	5	2
23	5	4	5	3	5	3	5	5	5	5	4	5	5	4	4	5	2
24	4	5	5	3	4	4	4	4	3	2	4	5	3	4	2	4	5
25	4	3	3	5	5	3	5	3	4	2	5	5	5	4	5	4	4
26	4	5	5	5	4	4	3	5	4	4	5	4	5	4	2	5	5
27	4	4	5	5	5	4	3	4	3	4	5	3	3	5	4	4	5
28	4	5	4	4	4	4	5	5	4	4	4	4	5	4	5	4	3
29	5	5	5	5	5	5	4	5	4	4	3	3	4	5	5	4	3
30	5	5	5	5	5	5	3	3	3	2	2	4	2	2	3	4	1
Mean	4.7	4.6	4.5	4.5	4.4	4.4	4.4	4.3	4.3	4.2	4.1	4.1	4.0	3.9	3.8	3.8	3.7

Source: Processed by Researchers, 2021

The mean obtained from each indicator has no value below the cut-off value of 3.00, most indicators get a value above 4.00. Based on the analysis can be concluded that the pilot respondents can understand the content and intent of the questionnaire and can be continued to the survey stage of the questionnaire.

3.3 Questionnaire Survey Data Collection Results

Data collection and analysis at this stage is a questionnaire distributed to research respondents, namely users and visitors. For sampling respondents using Random Sampling technique. To determine the number of samples in the study using slovin formula (Sujarweni, 2014):

$$n = \frac{N}{(1+N_2{}^2)} \tag{1}$$

From the Eq.1, N = 1183 and e = 5%, so for the number of samples obtained in the study is 300 samples, where the number of users 257 people and the number of visitors 43 people. For the dissemination of questionnaires conducted online through google form disseminated through e-mail students of the Kalimantan Institute of Technology with the number who responded was 98 people and spread google form links through Whatsapp with the number who responded was 202 people.

3.3.1. Validity Test

A. Test the Validity of Architectural Components

Table 5. Test the Validity of Architectural Components

Question Item	rxy	Value	Information
A1	Pearson Correlation Sig. (2-tailed)	0.614	Valid
A2	Pearson Correlation Sig. (2-tailed)	0.513	Valid
A3	Pearson Correlation Sig. (2-tailed)	0.585	Valid
A4	Pearson Correlation Sig. (2-tailed)	0.574	Valid
A5	Pearson Correlation Sig. (2-tailed)	0.574	Valid
A6	Pearson Correlation Sig. (2-tailed)	0.574	Valid

IBM SPSS, 2021

Based on Table 5 can be seen the sig value of all question items for architectural components $0.000 < 0.05$ which means all question items on architectural component variables are valid.

B. Structural Component Validity Test

The results of the validity test in each item of the question on the structure component variables can be seen in Table 6 below.

Table 6. Structural Component Validity Test

Question Item	rxy	Value	Information
B1	Pearson Correlation Sig. (2-tailed)	0.790	Valid
B2	Pearson Correlation Sig. (2-tailed)	0.827	Valid
B3	Pearson Correlation Sig. (2-tailed)	0.820	Valid

IBM SPSS, 2021

Based on Table 6 can be seen the sig value of all question items for structure components $0.000 < 0.05$ which means all question items on the structure component variables are valid

C. Mechanical Component Validity Test

The results of validity testing in each item of the question on mechanical component variables can be seen in Table 7 below.

Table 7. Mechanical Component Validity Test

Question Item	rxy	Value	Information
C1	Pearson Correlation Sig. (2-tailed)	0.694	Valid
C2	Pearson Correlation Sig. (2-tailed)	0.725	Valid
C3	Pearson Correlation Sig. (2-tailed)	0.734	Valid
C4	Pearson Correlation Sig. (2-tailed)	0.713	Valid

IBM SPSS, 2021

Based on Table 7 can be seen the sig value of all question items for mechanical components $0.000 < 0.05$ which means all question items on mechanical component variables are valid.

D. Electrical Component Validity Test

The results of validity testing in each item of the question on electrical component variables can be seen in Table 8 below.

Table 8. Electrical Component Validity Test

Question Item	rxy	Value	Information
D1	Pearson Correlation Sig. (2-tailed)	0.737	Valid
D2	Pearson Correlation Sig. (2-tailed)	0.761	Valid
D3	Pearson Correlation Sig. (2-tailed)	0.755	Valid
D4	Pearson Correlation Sig. (2-tailed)	0.647	Valid

IBM SPSS, 2021

Based on Table 8 can be seen the sig value of all question items for electricall components 0.000 < 0.05 which means all question items on electrical component variables are valid.

E. Comfort Validity Test

The results of the test validity in each item of the question on the comfort variable can be seen in Table 9 below

Table 9. Comfort Validity Test

Question Item	rxy	Value	Information
Y1	Pearson Correlation Sig. (2-tailed)	0.658	Valid
Y2	Pearson Correlation Sig. (2-tailed)	0.662	Valid
Y3	Pearson Correlation Sig. (2-tailed)	0.303	Valid
Y4	Pearson Correlation Sig. (2-tailed)	0.358	Valid
Y5	Pearson Correlation Sig. (2-tailed)	0.274	Valid
Y6	Pearson Correlation Sig. (2-tailed)	0.322	Valid
Y7	Pearson Correlation Sig. (2-tailed)	0.327	Valid
Y8	Pearson Correlation Sig. (2-tailed)	0.486	Valid
Y9	Pearson Correlation Sig. (2-tailed)	0.658	Valid
Y10	Pearson Correlation Sig. (2-tailed)	0.622	Valid

IBM SPSS, 2021

Based on Table 9 can be seen the sig value of all question items for comfort 0.000 < 0.05 which means all question items on the convenience variable are valid.

3.3.2. Reliability Test

Reliability tests are conducted to determine the instruments used in this study accurately, stable, and consistently. The results of reliability test calculation for each variable can be seen in Table 10 as follows.

Table 10. Reliability Test

No	Variable	Alpha Value
1	Architectural Components	0.606
2	Structure Components	0.741
3	Mechanical Components	0.682
4	Electrical Components	0.695
5	Comfort	0.612

IBM SPSS, 2021

Based on Table 10 can be seen alpha values on all variables more than 0.6 this means the questionnaire of all research variables can be said to be reliable.

3.4 Research Data Analysis

3.4.1 Results of Filling Out Maintenance Questionnaires

Maintenance done at Kandilo Shopping Center Building Plaza can be seen from the questionnaire answers of respondents who are visitors and users of the building by using the mean method and assessment using the likert scale method. The variables seen are from architectural, structural, mechanical and electrical components.

Table 11. Kandilo Plaza Shopping Center Building Maintenance Level

No	Component	Average	Information
1	Means of Exit	4.44	Good
2	Ceiling	4.29	Good
3	Locks, latches and hinges	4.29	Good
4	Sliding door, rolling door, and falding door	4.24	Good
5	Wooden Frame	4.37	Good
6	Window	4.26	Good
1	Wall	4.44	Good
2	Roof	4.33	Good
3	Floor	4.29	Good
1	Air Conditioning System	4.34	Good
2	Fire protection system	4.29	Good
3	Plumbing System	4.22	Good
4	Building Transportation System	4.40	Good
1	Electrical installation	4.32	Good
2	Communication	4.27	Good
3	Lighting	4.22	Good
4	Alarm	3.83	Pretty good

Source: Processed by Researchers, 2021

Based on Table 11 can be seen for architectural components consisting of Means of Exit, Ceiling, Lock, Grendel and Hinges, Sliding door, rolling door, falding door, wood frame, and Windows of the six components have an average value of more than 4 which means the maintenance of Kandilo Plaza Shopping Center Building based on architectural components are in the good category, can be said to be in the good category because on the likert scale for the score value 4 is in the good category. Judging from the structure components consisting of walls, roofs, and floors also have an average value of more than 4 which means the maintenance of Kandilo Plaza Shopping Center

Building based on structural components is also in the good category, it can be said to be in the good Then judging from the Mechanical components consisting of Fan/Ac Availability, Fire Protection System, Plumbing System and Building Transportation System also has an average value above 4 which means the maintenance of Kandilo Plaza Shopping Center Building based on mechanical components is also in the good category, it can be said to be in the good category because on the likert scale for a score of 4 is in the good category. And for electrical components consisting of Electrical Installation, Communication, Lighting, and Alarm has an average value also above 4 which is seen on the likert scale for a score of 4 is in the category of good for all components unless the alarm is in the category is quite good, because seen on the likert scale for a score of 3 is in the category is quite good.category because on the likert scale for a score of 4 is in the good category.

3.4.2 Assumptions Test

A. Normality Test

The data normality test is conducted using kolmogorv Smirnov test with testing criteria if Exact Sig. (2- tailed) > 0.05 then the data is said to be normally distributed.

Table 12. Kolmogorov-Smirnov Test Results

	Kolmogorov-Smirnov		
	Statistic	Df	Sig
Mean	0.047	300	0.493

IBM SPSS, 2021

In Table 12, the Exact Sig value is visible. (2-tailed) 0.493 > 0.05 so it can be said that the data is normally distributed.

B. Autocorrelation Test

The autocorrelation test aims to test whether the linear regression model has a correlation between the bully error in the t period and the bully error in the previous period (t-1).

Table 13 Autocorrelation Test Calculation Results

du	dw	4-du
1.80388	1.804	2.196

IBM SPSS, 2021

In Table 13, the dw value is between du and 4 – du so it can be concluded that there are no autocorrelation symptoms.

C. Multicollinierity Test

Multicolineritas tests are used to test the model whether there is a perfect or near-perfect relationship between free variables, making it difficult to separate the influence between variables - those variables individually against bound variables.

Table 14. Multicollinierity Test Calculation Results

Model	Collinearity Statistic	
	Tolerance	VIF
Constant		
Architectural Components	0.963	1.039
Structure Components	0.937	1.067
Mechanical Components	0.967	1.034
Electrical Components	0.954	1.048

IBM SPSS, 2021

In Table 14, there is a tolerance value for each of the free variables > 0.1 and VIF < 10, so it can be said that there are no symptoms of multicolumnity in each free variable.

D. Heteroskedacyti Test

Heteroskedastisity tests are used to test whether in the regression model there is variable inequality from residual one observation to another.

Table 15. Heteroskedastisity Test Calculation Results

Model	t	Sig
Constant	3.000	0.003
Architectural Components	0.207	0.836
Structure Components	-0.438	0.662
Mechanical Components	-0.126	0.900
Electrical Components	-0.263	0.109

IBM SPSS, 2021

In Table 15, the sig value for all free variables > 0.05 so it can be said that there are no symptoms of heterokedastisitas between free variables.

3.4.3 Test the Effect of Architectural, Structural, Mechanical and Electrical Component Variables on Building Comfort

A. T Test

T-tests are known as partial tests, used to determine the effect of each free variable on bound variables.

Table 16. T Test Results

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig
Constant	28.161	2.217		12.703	0.000
Architectural Components	0.201	0.058	0.185	3.440	0.001
Structure Components	0.235	0.092	0.139	2.551	0.011
Mechanical Components	0.278	0.079	0.187	3.498	0.001
Electrical Components	0.279	0.071	0.211	3.910	0.000

IBM SPSS, 2021

From Table 16, you can see the sig value for each free variable of 0.000 < 0.05 which means Ho is rejected so that it can be summed up as follows.
- There is an influence of the architectural components of the Building on the comfort of visitors.
- There is an influence of building structure components on the comfort of visitors.
- There is an influence of mechanical components of the Building on the comfort of visitors.
- There is an influence of electrical components of the Building on the comfort of visitors.

B. F Test

Test F is used to determine the effect of a free variable together (simultaneously) on a bound variable.

Table 17. F Test Results

Model	Sum Of Squares	Df	Mean Squares Error	F
Regression	348.355	4	87.089	16.513
Residual	1555.842	295	5.274	
Total	1904.197	299		

IBM SPSS, 2021

Based on Table 17 the sig value of 0.000 < 0.05 then it can be concluded that Ho is rejected which means that there is a mutual influence - equally free variables of architectural components, structural components, mechanical components and electrical components to the comfort of visitors.

C.   Coefficient of Determination Test

The determination coefficient test aims to determine the magnitude of the influence of free variables on bound variables in percentage form (%). The coefficient of determination test is seen from the value of R square.

Table 18. Coefficient of Determination Test

Model	R	R Squares	Adjusted R Squared	Std Error of the Estimate
1	0.428	0.183	0.172	2.29653

IBM SPSS, 2021

In Table 18 above the value of r square 0.172 which means the magnitude of the influence of architectural components, structural components, mechanical components and electrical components on the comfort of visitors by 17.2% and the rest is influenced by other factors that are not studied.

4.   Conclusion

Building Maintenance in Kandilo Plaza Shopping Center Building seen from architecture components are in the category of Good, judging by the structure components are in the good category, judging by the mechanical components are also in the good category, and for electrical components on the indicators Electrical Installation, Communication and Lighting are in the good category but on the alarm indicators are in the category of quite good. So in general, The Maintenance of Buildings in Kandilo Plaza Shopping Center Building is in the Category of Good.

Based on the results of the data test can be seen the value of significance in several components, among others, the architectural component is $0.001 < 0.05$, structural components are $0.011 < 0.05$, mechanical components are $0.001 < 0.$ and electrical components of $0.001 < 0.05$ which means that all components have a significant influence on the comfort of visitors and users of Kandilo Plaza Shopping Center Building with a coefficient of determination of 17.2%.

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