THE EFFECT OF AVIOBRIDGE MAINTENANCE ON PASSENGER COMFORT AT TJILIK RIWUT AIRPORT PALANGKA RAYA

Anggi Meiristya Solikhah[1], Setyo Hariyadi[2], Fatmawati[3]

[1,2,3)] *Politeknik Penerbangan Surabaya, Jl. Jemur Andayani I No 73 Surabaya 60236*
**Corresponding Author Email: meiristyaa@gmail.com*

ABSTRACT

Tjilik Riwut Airport Palangka Raya serves over 726,000 passengers in 2024, with the aviobridge as a key facility affecting passenger comfort. Due to aging, the aviobridge shows damage such as faulty sensors, poor air conditioning, and peeling floors. This study aims to analyze the effect of aviobridge maintenance on passenger comfort. Using a quantitative descriptive method, data were collected through observation, literature study, and questionnaires from 65 respondents. Analysis included validity, reliability, normality, linearity, regression, and t-tests. The regression result (Y = 3.499 + 0.897X) shows a significant positive effect, meaning better maintenance improves comfort.The study recommends enhancing preventive and corrective maintenance to support service quality at the airport.

Keywords: *Aviobridge, Maintenance, Passenger Comfort, Tjilik Riwut Airport*

1. INTRODUCTION

Air transportation is one of the most popular modes of transportation due to its time efficiency and safety guarantees. The facility used as the location for flight operations is the airport. Airports play a crucial role in the air transportation network as they are vital hubs connecting various regions, both nationally and internationally. They are special locations designated for the takeoff and landing of aircraft such as airplanes and helicopters. Tjilik Riwut Airport is the main airport in Palangka Raya City, Central Kalimantan. This airport plays a strategic role as the main gateway for air transportation connecting Palangka Raya with various regions in Indonesia. According to a report from OASYS (Operation and Service Data System), the number of passengers at Tjilik Riwut Airport from 2020 to 2024 has never decreased, both in terms of arrivals and departures.

No	Year	Number of Passengers		Total
		Arrival	Departure	
1	2020	188.646	193.353	381.999
2	2021	190.267	207.321	397.588
3	2022	278.569	284.359	562.928
4	2023	351.191	244.829	696.020
5	2024	363.751	367.753	726.504

Figure 1 Passengers From 2020 To 2024

This positive trend is expected to continue to increase due to the high mobility of the community, regional economic development, and the increasing interest of tourists to visit Central Kalimantan. This must be balanced with the optimization of service quality both on the ground and in the air in order to provide quality service to passengers. Service standards according to (PM 41 Tahun 2023) concerning airport services at airports are benchmarks used as guidelines for the implementation and assessment of service quality. This reflects the obligations and promises of the operator to the public to provide quality, fast, easy, affordable, and measurable services. According to (Dharmanto et al., 2022) service is the responsibility of the service provider to provide services of a predetermined quality based on a combination of community desires and the capabilities of the service provider. From the definition of service, it is necessary to examine whether the comfort experienced by passengers is influenced by the quality of facilities at an airport.

Quality service is not only about providing momentary comfort, but also how we are able to maintain the facilities properly and ensure their sustainability for long-term use. One of the airside facilities that needs attention and maintenance to ensure smooth operations is the aviobridge. The aviobridge connects the passenger terminal with the aircraft. The aviobridge greatly affects

passenger comfort, boarding time efficiency, and safety during the transfer from the terminal to the aircraft. The basis for aviobridge maintenance is contained in SKEP/157/IX/2003 concerning airport electronic facilities. Maintenance is very important because aviobridges are facilities that are operated daily and continuously. The condition of an aviobridge, whether it is fit for use or not, has a major impact on operational efficiency, safety, and passenger comfort .

Tjilik Riwut Airport has three aviobridges that are not in good condition and should be continuously maintained. According to monitoring from the SCORE (Service Excellence Performance) application, the aviobridge at Tjilik Riwut Airport is one of the top 10 open cases in airport facility damage reports. Each aviobridge has almost the same damage conditions, with the average damage occurring on the monitor screen, sensors, floor, air conditioning, and canopy. The monitor screen often malfunctions, so that during the undocking process, the operator has difficulty returning the wheel bogey to its original position, the aviobridge floor is peeling and the canopy is perforated and the aviobridge air conditioning is currently not functioning optimally.

Although it is still functional, the use of this aviobridge requires special attention in terms of maintenance and periodic evaluation to ensure that passenger comfort and safety standards are maintained in accordance with applicable regulations. Based on the background described above, this study aims to identify how the maintenance of the aviobridge at Tjilik Riwut Airport affects the performance of the equipment and its impact on passenger comfort. By understanding the relationship between the quality of routine maintenance and the performance of the aviobridge, this study is expected to provide strategic recommendations to improve the quality of the equipment in order to enhance safety and passenger comfort.

2. METHODE

Methodos, which means a specific procedure or path to achieve a goal. In a scientific context, method is understood as a series of systematic approaches used to study an object or field of study in a targeted manner. Meanwhile, according to the Indonesian Dictionary, research is defined as an activity that includes the collection, processing, analysis, and presentation of data carried out in a systematic and unbiased manner, with the aim of formulating solutions to specific problems or testing the validity of a hypothesis, in order to formulate general principles. Research can also be defined as a systematic and objective activity aimed at exploring and developing scientific knowledge (Dianti, 2017).

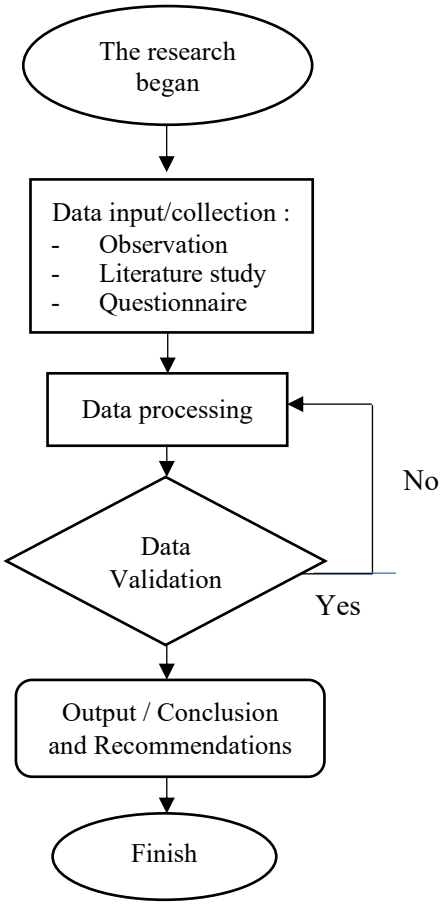

Figure 2 Research Flowchart

According to (Nasution, 2015), research methods can be simply defined as a way or path taken by someone to research and formulate their research in a systematic and scientific manner so that the results obtained can be accounted for in terms of their validity. The research method is our approach to identifying problems, developing them, proving their validity, and providing solutions to those problems. This final project uses a quantitative descriptive research method. A quantitative descriptive research method is a research method used to produce a description or overview of data. Data was collected through a closed questionnaire with a 1-4 Likert scale, then analyzed using descriptive statistics to determine. The Likert scale is a psychometric scale commonly used in survey research (Moonlight et al., 2022). Research design is data collection that requires special planning. The process of completing this Final Project was carried out using the steps outlined in the following flowchart.

Validity refers to the accuracy of an instrument in measuring the concept being studied (Nasution, 2015). An item is considered valid if the calculated R value is greater than the table R value (calculated R > table R), or the significance value is less than 0.05 (significance value < 0.05) (Sugiyono, 2019). Reliability testing is an

instrument testing technique that aims to determine whether the instrument used can be applied to collect data and ensure that when re-measurements are performed, there are no changes in the results (Asiva Noor Rachmayani, 2015). A reliable questionnaire is characterized by a Cronbach Alpha value > 0.70, which means that all items are reliable and all tests consistently have strong reliability.

Normality testing is used to measure whether the data obtained is normally distributed or not so that it can be used in parametric statistics (inferential statistics) (Haniah, 2013). The condition in this test is said to be normal if the Sig value is > 0.005, then it can be said that the data is normally distributed. Linearity testing is a test that aims to determine whether the relationship between independent variables and dependent variables is linear or not. The relationship can be positive (unidirectional) or negative (non-unidirectional) (Nasar et al., 2024). The linearity test criteria are that if the Sig. deviation from linearity value is > 0.05, it can be concluded that the linearity test has been fulfilled, and if the Sig. linearity value is < 0.05, it can be concluded that the linearity test has been fulfilled.

According to (Erzed MT, 2019), regression is an analytical instrument that functions to assess whether or not there is a relationship between variables. The linear regression equation that relates variable Y to variable X is formulated as Y = a + bX. Partial testing or T-test is used to test the effect of each independent variable partially on the dependent variable. In this test, a significance level of 0.05 is used. If the significance value is less than 0.05 or the calculated T value is greater than the table T value, it can be concluded that the independent variable partially has a significant effect on the dependent variable (Sugiyono, 2019).

3. RESULT

3.1. Level of Aviobridge Maintenance Performed

The aviobridge at TjilikRiwut Palangka Raya Airport still has some issues.These issues are mainly related to aspects that directly affect passengers, such as temperature, lighting, accessibility, monitors, sensors, and cleanliness of the aviobridge. Maintenance of the aviobridge at Tjilik Riwut Airport in Palangka Raya has been carried out in accordance with SKEP/157/IX/2003 and the Standard Operating Procedures (SOP) established by the airport's technical unit. Maintenance is carried out periodically based on a predetermined daily, weekly, monthly, and annual schedule.

As part of the implementation of Standard Operating Procedures (SOP), aviobridge maintenance at Tjilik Riwut Palangka Raya Airport is carried out routinely and documented through a daily checklist form filled out daily by technicians. This checklist serves as a technical control tool to ensure all aviobridge components are in operational condition before use. Based on the results of the observation, it can be seen that the maintenance of the aviobridge at Tjilik Riwut Airport in Palangka Raya has generally been carried out properly and in accordance with procedures, as indicated by the daily checks, reporting of damage through internal media, and routine maintenance efforts by technicians.

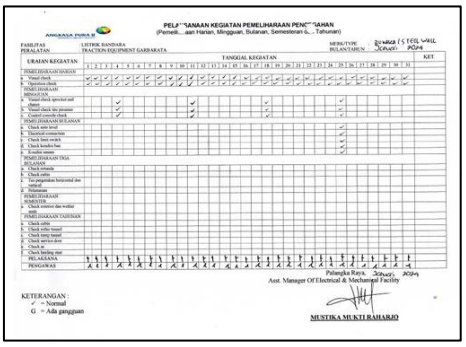

Figure 3 Aviobridge Conditions Checklist

3.2. Passenger Comfort Levels Regarding Aviobridge Facilities at Tjilik Riwut Airport in Palangka Raya

Passenger comfort is one of the important indicatorsin assessing service quality at airports. All indicators refer to the service standards of PM 41 of 2023, which states that airport operators are required to ensure comfortable, safe, fast, and measurable services for service users, especially in vital facilities such as aviobridges. Based on observations made directly by researchers, the aviobridge facility at Tjilik Riwut Airport shows reasonable comfort conditions despite some minor damage. The well-maintained physical condition of the aviobridge, as well as the presence of officers who are quick to help during the boarding process, also increase passengers' perception of comfort. Some respondents also commented that the use of an aviobridge is better than using passenger stairs, as it minimizes the risk of fatigue, exposure to weather conditions, or hazards in the aircraft movement area.

3.3. The Effect of Aviobridge Maintenance on Passenger Comfort at Tjilik Riwut Airport in Palangka Raya

The maintenance of aviobridge facilities plays an important role in supporting passenger comfort at airports. To answer the question regarding the effect of

aviobridge maintenance on passenger comfort ,an analysis was conducted using validity, reliability, normality, linearity, simple linear regression and partial t-test.

3.3.1. Validity Test

Validity refers to the accuracy of an instrument in measuring the concept being studied. An item is considered valid if it meets the specified correlation criteria, where the calculated R value is greater than the table R value and the Sig value is less than 0.05.

Variable	RTable	RResult	Remarks
x.1	0,244	.731**	Valid
x.2	0,244	.725**	Valid
x.3	0,244	.611**	Valid
x.4	0,244	.754**	Valid
x.5	0,244	.676**	Valid
x.6	0,244	.750**	Valid
x.7	0,244	.686**	Valid
x.8	0,244	.751**	Valid
x.9	0,244	.731**	Valid
x.10	0,244	.750**	Valid

Table 1 Results of Variable X Validity Test

It is known that the r-table value for data totaling 65, at a significance level of 5%, is 0.244. It can be seen from the table above that the calculated r value for each item of variable X is not less than the r table, so the questionnaire for variable X can be declared **valid.**

Variable	RTable	RResult	Remarks
y.1	0,244	833**	Valid
y.2	0,244	.790**	Valid
y.3	0,244	.695**	Valid
y.4	0,244	.722**	Valid
y.5	0,244	.729**	Valid
y.6	0,244	.739**	Valid
y.7	0,244	.758**	Valid
y.8	0,244	.640**	Valid
y.9	0,244	.833**	Valid
xy10	0,244	.729**	Valid

Table 2 Results of Variable Y Validity Test

It can be seen from the table above that the calculated r value for each item of variable Y (Passenger Comfort at Tjilik Riwut Airport Palangka Raya) has a calculated r greater than the Table r , so the variable Y questionnaire can be said to be **valid.**

3.3.2. Reliability Test

Reliability testing is an instrument testing technique that aims to determine whether the instrument used can be applied to collect data and ensure that when repeated measurements are taken, the results do not change. If the Cronbach Alpha value is > 0.70, it means that all items are reliable and all tests consistently have strong reliability.

No	Variable	Cronbach Alpha	Remarks
1	X	0,894	Reliabel
2	Y	0,911	Reliabel

Table 3 Results of Reliability Test

Based on the above calculations, it is evident that the value of variable X is greater than 0.70, namely 0.894, and variable Y has a Cronbach's alpha value of 0.911. This indicates that the data for the aviation bridge maintenance indicator variable and the passenger comfort variable at Tjilik Riwut Airport in Palangka Raya is **reliable**.

3.3.3. Normality Test

The normality test is a test used to measure whether the data obtained is normally distributed or not. The condition in this test is said to be normal if the Sig value is > 0.005, then it can be said that the data is normally distributed.

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		65
Normal Parameters[a,b]	Mean	0,0000000
	Std. Deviation	2,40755479
Most Extreme Differences	Absolute	0,151
	Positive	0,081
	Negative	-0,151
Test Statistic		0,151
Asymp. Sig. (2-tailed)		.860[c]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Table 4 Results of Normality Test

Based on the normality test results, a Sig. (2-tailed) value of 0.860 was obtained. Since this significance value is greater than 0.05 (0.860 > 0.05), it can be concluded that the data is **normally distributed**.

3.3.4. Linearity Test

The linearity test is a prerequisite test in regression analysis. The linearity test is satisfied if the Sig. Deviation From Linearity value is > 0.05 and the Sig. Linearity value is < 0.05.

Result	significance
Linearity	0,000
Deviation from Linearity	0,279

Table 5 Results of Linearity Test

Based on the results of processing the Sig. Deviation From Linearity > 0.05 (0.297 > 0.005), which means that the linearity test has been fulfilled. The Sig. Linearity < 0.05 (0.000 < 0.05) value can also be concluded that the **linearity test has been fulfilled.**

3.3.5. Linear Regresion and T Parsial Test

The linear regression equation that relates variable Y to variable X is formulated as follows:

$$Y = a + b\,X$$

In partial T testing using a significance level of 0.05, if the significance value is less than 0.05 or the calculated T value is greater than the Table T, it can be concluded that the independent variable partially has a significant effect on the dependent variable.

Result		
Constant	Value Of Variable X (Maintenance)	T value
3,499	0,897	13,703

Table 5 Results of *Linear Regresion and T Parsial Test*

The conclusion from the simple linear regression equation above is:

a. The constant value (α) is 3.499. This means that if the value of variable X is 0, then the value of variable Y is 3.499 units.
b. The regression coefficient value of variable X is 0.897. This indicates that for every increase of one unit in variable X, there will be an increase in the value of variable Y by 89.7%. The regression coefficient is positive, so it can be stated that the direction of the influence of variable X on variable Y is positive; as the level of aviobridge maintenance increases, the level of passenger comfort in air transport at Tjilik Riwut Palangka Raya Airport also increases.

Based on the calculated T value that is greater than the table T value, namely 13.703 (calculated T) > 0.2440 (table T) and a significance value of 0.000, which means less than 0.005 with a correlation value of 0.897. It can therefore be concluded that variable X has a strong influence on variable Y.

4. CONCLUSION

a. Maintenance of the aviobridge at Tjilik Riwut Airport in Palangka Raya has generally been carried out in accordance with applicable procedures and is categorized as good. This is evidenced by the results of observations showing that maintenance and repairs are carried out when damage occurs, although there are still some shortcomings in the aviobridge.

b. The level of passenger comfort when using the aviobridge is considered good. Based on the responses of 65 respondents, the majority agreed that the aviobridge was well maintained, which contributed to their comfort during the boarding or deboarding process, even though some facilities were not yet physically perfect.

c. The regression test results show a positive and significant effect between aviobridge maintenance and passenger comfort. This is proven by the regression equation Y = 3.499 + 0.897X, which means that every one-point increase in maintenance quality will increase passenger comfort by 0.897 points. Thus, the alternative hypothesis (Ha) is accepted, that aviobridge maintenance affects passenger comfort.

REFERENCES

[1] Asiva Noor Rachmayani. (2015). *Pengaruh Brand Image, Brand Awareness Serta Product Quality Pada Keputusan Pembelian Laptop Merek Asus (Studi Pada Konsumen Laptop Asus Di Plasa Simpang Lima Semarang)*. 6.

[2] Dharmanto, A., Wahyu Setyawati, N., & Sri Woelandari Pg, D. (2022). *3 1,2,3*. *2*(11), 87–94.

[3] Dianti, Y. (2017). Metode Penelitian Kuantitatif. In *Angewandte Chemie International Edition, 6(11), 951–952.* Http://Repo.Iain-Tulungagung.Ac.Id/5510/5/Bab 2.Pdf

[4] Direktorat Jenderal Perhubungan Udara. (2003). Skep/157/Ix/2003. *Tentang Pedoman Pemeliharaan Dan Pelaporan Peralatan Fasilitas Eelektronika Dan Listrik Penerbangan*, 1–12.

[5] Erzed Mt, I. N. (2019). *Materi Pertemuan Ol-56 Statistik 2 Universitas Esa Unggul*. Https://Lms-Paralel.Esaunggul.Ac.Id/Pluginfile.Php?File=/194469/Mod_Resource/Content/1/06_7228_Esa155_042019.Pdf

[6] Haniah, N. (2013). Uji Normalitas Dengan Metode Liliefors. *Statistika Pendidikan*, *1*, 1–17. Http://Statistikapendidikan.Com

[7] Menteri Perhubungan Indonesia. (2023). Pm 41 Tahun 2023. *Pelayanan Jasa Kebandarudaraan Di Bandar Udara*, 1–97.

[8] Moonlight, L. S., Rochmawati, L., Fatmawati, F., Furyanto, F. A., & Arifianto, T. (2022). Rancang Bangun Website Prodi D3 Komunikasi Penerbangan Menggunakan Metode Prototype. *Integer: Journal Of Information Technology*, *7*(1), 1–11. Https://Doi.Org/10.31284/J.Integer.2022.V7i1.2520

[9] Nasar, A., Saputra, D. H., Arkaan, M. R., Ferlyando, M. B., Andriansyah, M. T., & Pangestu, P. D. (2024). Uji Prasyarat Analisis. *Jebi: Jurnal Ekonomi Dan Bisnis*, *2*(6), 786–799.

[10] Nasution, A. (2015). Metodologi Penelitian: Metodologi Penelitian Skripsi. *Rake Sarasin*, 36.

[11] Sugiyono. (2019). Sugiyono - Kualitatif, Kuantitatif, R&D (2019). In *Etika Jurnalisme Pada Koran Kuning : Sebuah Studi Mengenai Koran Lampu Hijau* (Vol. 16, Issue 2).