# OPTIMISATION OF TERMINAL FACILITIES FOR THE IMPROVEMENT OF THE QUALITY OF SERVICE

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**ABSTRACT**
Halu Oleo Airport has a large number of aircraft and passenger movements per year, so the quality of services and facilities provided must be good. Although compliance with service standards has been achieved, several facility problems were found in the departure waiting room area and departure hall. The purpose of this research is to find out what terminal facilities can improve service quality at Halu Oleo Kendari Class 1 Airport, strategies in optimising facilities and the effect of terminal facilities on service quality. This research uses mixed research methodology with Sequential Exploratory design. Data will be analysed using qualitative and quantitative methods through Pearson correlation, T test(partial) and simple linear regression to find the effect of terminal facilities on service quality.

***Keywords*****:** *Terminal facilities, optimisation, service quality, airports*

## 1. INTRODUCTION

As one of the airports in Southeast Sulawesi, Halu Oleo Airport is a class 1 domestic airport located in Kendari, Southeast Sulawesi. The airport is the region's main air gateway, and plays an important role in providing efficient and safe air transport services.

Based on Halu Oleo Kendari Airport Air Transport Traffic Data Recap in 2018- 2023 shows that, there is an increase in aircraft movements and aircraft passengers in 2018-2019. Then there was a significant decline during the Covid-19 period. After the Covid-19 period ended in 2021, there was a progressive increase in the number of domestic passengers. This increase affects the maximum passenger capacity at the airport. The maximum passenger capacity is the maximum number of passengers that can be handled by the airport in a certain period of time, where the number each year can vary depending on many factors, one of which is infrastructure development.

According to Dr. Asep Surya (Transportation Journal, Vol. 10, No. 2, 2018) optimising adequate facilities can significantly increase passenger capacity, because passengers will feel more comfortable and well served.

Based on the Letter of the Head of the Makassar Region V Airport Authority Office number UM.006/42/5/KOBU-V-2023 concerning Assessment Data of Terminal Facility Inspection Results as Material for Assessment of Airport Service User Service Standards at Halu Oleo Airport Kendari shows that the facilities at Haluoleo Airport have met service standards.

But in reality, there are still complaints experienced by passengers directly. Where the availability of some existing facilities and services is not optimal enough. A significant surge in passengers

resulted in a shortage of seating in the departure lounge and hallway area so that passengers had to stand or look for alternative seating. In addition, perforated ceilings and FIDS were found to be in a damaged condition.

The unavailability of adequate facilities will cause a service problem and impact on passenger satisfaction. Although compliance with service standards has been achieved, some of the problems found can affect passenger capacity which impacts on service quality.

## 2. LITERATURE REVIEW

### *2.1 Aerodrome*

An airport is a special area equipped with various facilities to support flight activities, from take-off to landing of aircraft. According to ICAO (International Civil Aviation Organization) international regulations, Annex 14 is defined as a specific area in a country or region (such as constructions, installations, and infrastructure) used for general or special purposes such as navigation, safety, and flight operations.

### *2.2 Passenger Terminal Facilities*

The passenger terminal at the airport is a transport infrastructure in the land side area as the first destination for prospective passengers who will take a flight to complete the administrative process. The airport terminal area is divided into two parts, the arrival terminal and the departure terminal.

### *2.3 Quality of Service*

Based on the theory of Hardiansyah (2011: 40), service quality is a subjective condition related to human processes, products, and the environment where quality is assessed during the process of making services. In order to improve the quality of service at the terminal facilities mentioned above, it is necessary to refer to the servicestandards listed in PM 41 of 2023.

According to Zeithaml, Parasuraman, and Berry (Hardiyansyah, 2011: 11), there are indicators of service quality in five dimensions as follows:

a) Responsiveness
Services are provided in a thoughtful, detailed, and direct manner. According toKemenPan No. 58 of 2002, service timeliness can be used as a tool to assesspublic service performance.

b) Reliability
Service quality can be improved by increasing the availability and ability to provide services to customers with their needs as quickly as possible. According to Sunyoto (2004; 16), the ability of an individual to provide services is very important because every service requires a certain level of efficiency to be effective.

c) Assurance
The implementation of quality public services must always be based on noble ethics with the aim that people can feel comfortable and well served. This principle is in line with the provisions of the Minister of Administrative Reform and Bureaucratic Reform Regulation Number 63 of 2003, which explicitly underlines the importance of excellent service standards, including aspects of the ability and security of the service environment.

d) Empathy
Improving service quality requires a deep understanding of the various types of services provided. This aims to create a good impression and empathy among service recipients.

c) Tangibles
Parasuraman and Barry argue that adequate physical evidence is needed to support high-quality service (in Tjiptono, 2015: 133). Service user satisfaction is strongly influenced by the physical appearance (tangible) provided.

### *2.4 Previous Research*

Based on the results of the researcher's search, there are research journals related to the topic of terminal facilities on service quality that have been carried out by several previous researchers. The first was written by Eka Putri Maulidiah, Survival, and Bambang Budiantono in 2023. The journal explains the results of research showing that facilities have a significant influence on service quality, customer satisfaction, and mediation testing. Service quality is mediated by facilities with questionnaire methods and the analysis used is hypothesis, descriptive statistics, and partial least square.

## 3. METHOD

This study adopted a mixed method research design with an exploratory approach. The instrument development model was used to create a quantitative measurement tool that serves as a complement to qualitative data. This mixed approach allowed the researcher to gain a more comprehensive understanding and validity of the research findings.

### *3.1 Framework of Thought*

The research flow that will be carried out uses a mixed method research design with the Instrument Development model mode. The first stage is qualitative data collection then the data is analysed. The results of the analysis lead to conclusions. Therefore, concrete research steps will be carried out, described in detail, and then evaluated quantitatively to arrive at conclusions. The following is a description of the exploratory design research procedure using the instrument development model.

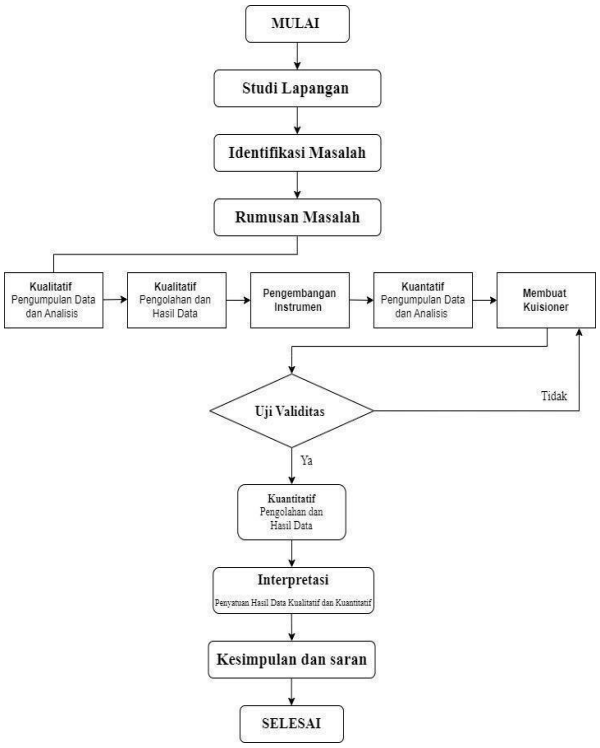


Figure 1. Sequantiel Exploratory

### *3.2 Qualitative Approach*

Qualitative methods involve working with data without statistical data analysis. Techniques used to collect qualitative data include :

a. Observation (Field Study)
The type of data desired determines whether observation is done directly or indirectly. As stated by Bogdan and Biklen (1992), observation is 'the systematic and regular observation of human behaviour in a particular situation or context'. This observation was conducted in the terminal area of Halu Oleo Kendari Airport from 20 December 2023 to 12 January 2024 by focusing on the departure hall (hallway) and departure waiting room as the object of research.

b. Literature Study
Literature study itself is the process of collecting, analysing, and synthesising information from various sources to build the theoretical basis of a research. This research will discuss the Minister of PM Regulation Number 41 of 2023

concerning Airport Services.

c. Interview

This research uses purposive sampling techniques, where participants are selected based on certain criteria. According to Sugiyono (2016), this technique allows researchers to select informants who are considered most relevant to the research topic.' So that the interview will be conducted intensively with 1 internal airport party, namely the Head of the Terminal Management Unit by asking 10 questions.

d. Documentation

The data obtained by researchers is comprehensive from various documents. The data includes an overview of the airport, the condition of existing terminal facilities, statistics on the number of passengers, and important notes.

### *3.2.1 Qualitative Data Analysis*

Referring to the opinion of Miles and Huberman (2013), qualitative data analysis is an activity that is carried out interactively and continuously until the data obtained no longer provides new information. This activity includes three main stages, namely data reduction, data presentation, and conclusion drawing and verification.

## *3.3* Quantitative approach

This quantitative study is the second stage in the mixed method research design. In this research, quantitative survey methods are used. Respondents are asked about opinions, beliefs, or characteristics of objects. This research data comes from the scores given by respondents on each question in the questionnaire.

### *3.3.1 Population*

The population in this study is limited to 100 passengers who use flight services from Halu Oleo Kendari Airport, in accordance with the definition of population by Sugiyono (2019) as a group of objects or subjects that are the focus of research.

### *3.3.2 Sample*

Given the large population, this study applies probability sampling techniques. The sample size was determined based on the Taro Yamane formula as described by Riduwan (2009).

$$\frac{N}{N.d^2+1}$$

Description:
n : Number of samples
N : Total population D:
precision set

Referring to this formula, the number of samples (n) of the research is obtained as follows, using the Taro Yamane formula by Riduwan (2009), with a precision value of 10% (0.1):

$$n = \frac{N}{N.d^2+1}$$

$$n = \frac{100}{100x(0,1)^2+1}$$

$$n = \frac{100}{100x(0,01)+1}$$

$$n = \frac{100}{2}$$

$$n = 50$$

**Number of respondents = 50**

Therefore, according to the results of the calculation, the sample in this study amounted to 50 people, namely passengers at Halu Oleo Kendari Airport.

### *3.3.3 Object of Research*

The research object to be taken is the terminal facilities at Halu Oleo Kendari Airport, namely in the departure hall area (hallway) and departure waiting room area.

### *3.3.4 Research Variables*

Theoretically, research variables refer to characteristics or aspects that vary from an object or event that is the focus of study. Independent variables and dependent variables are conceptual constructscommonly used in the research domain to analyse cause-and-effect relationships.

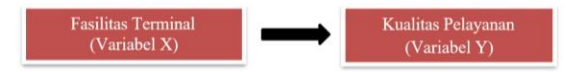


Figure 2. Chart of Research Variables

### *3.3.5 Quantitative Data Analysis*

Quantitative analysis is carried out to process Likert scale data to obtain quantitative results using the SPSS application to carry out several tests so that the calculation results can be known directly.

### *3.3.6 Validity Test*

The validity test was carried out using the Pearson correlation coefficient to analyse the relationship between question values. In this validity test the researcher uses degree of freedom (df) = n - 2 = 2. So (df) in this studyis 50 - 2 = 48.

a) If the calculated correlation coefficient (r count) is higher than the table correlation coefficient (r table), then the question item is declared valid.

b) If the calculated correlation coefficient (r count) is lower than the table correlation coefficient (r table), then the question item is declared invalid.

### *3.3.7 Reliability Test*

The reliability of an instrument can be interpreted as the level of consistency or stability of respondents' answers to the same questions at different times. A Cronbach's Alpha value of more than 0.60 is an indicator that the instrument has good reliability.

### *3.3.8 Normality Test*

To test whether the data fulfils the normality assumption, this study applies the Kolmogorov-Smirnov non-parametric test. The criterion for accepting the null hypothesis ($H_0$) stating that the data is normally distributed is a significance value of more than 0.05. If this criterion is met, then $H_0$is accepted. However, if the significance value is less than 0.05, then $H_0$ is rejected, which indicates that the data does not followa normal distribution.

### *3.3.9 T Test (Partial)*

To test the research hypothesis using regression analysis, a deep understanding ofthe basis for decision making in the partial t test is needed.

### *3.3.10 Simple Linear Regression Analysis*

Referring to Sugiyono (2017, 2018), simple linear regression analysis is used to test hypotheses about the existence of a functional or cause-and-effect relationship between one independent variable and one dependent variable. The relationship analysed is assumed to be linear.

## 4. RESULTS AND DISCUSSION

The first step in this research is to collect data. The data collected includes observation results and interview results. Researchers obtained observation data by observing terminal facilities in the departure waiting room area and departure hall (hallway). Researchers made observations for 12 days for 1 hour / day with a time interval of every 15 minutes. From the results of observations, it shows that some terminal facilities are still not in accordance with the rules of PM 41 of 2023 concerning Airport Services. These results are supported by documentation taken by researchers directly. In addition, the results of interviews conducted by researchers reinforce the existing findings. Based on an interview with the Head of Terminal Management at Halu

Oleo Kendari Airport, it was explained that the terminal facilities at the airport did not fully meet the standards of the applicable regulations.

Then the second step is data analysis. Data analysis has the aim of presenting a detailed picture of what facilities need to be addressed in order to improve the quality of service for passengers as well as strategies as a handling step in overcoming these problems.

### *4.1 Validity Test*

Furthermore, based on the results of validity test processing using Pearson correlation which is tested using the SPSS programme, the output data is obtained so that each validity test result. The validity analysis shows that all question items on
variables X and Y meet the validity criteria. This is evidenced by the item-total correlation coefficient value (r count) which is higher than the critical value of r table (0.2787).

### *4.2 Reliability Test*

A. Terminal facilities

The Cronbach's Alpha reliability test results below obtained a reliability value on terminal facilities of 0.746, which means that the reliability value is in the high category.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .746 | 18 |

Figure 3. Reliability Test Results of Variable X

B. Service Quality

Based on the results of the Cronbach's Alpha reliability test, the reliability value on service quality is 0.627, which means that the reliability value is in the high category.

**Reliability Statistic**

| Cronbach's Alpha | N of Items |
|---|---|
| .627 | 10 |

Figure 4. Reliability Test Results of Variable Y

### *4.3 Normality Test*

Since the significance value of the Kolmogorov-Smirnov test for the terminal facilities and service quality variables is 0.200 (more than 0.05), the data can be considered to come from a normally distributed population. This allows us to use parametric statistical analysis**.**

**One-Sample Kolmogorov-Smirnov Test**

| | | Unstandardized Residual |
|---|---|---|
| N | | 50 |
| Normal Parameters[a,b] | Mean | .0000000 |
| | Std. Deviation | 3.26809775 |
| Most Extreme Differences | Absolute | .089 |
| | Positive | .089 |
| | Negative | -.069 |
| Test Statistic | | .089 |
| Asymp. Sig. (2-tailed) | | .200[c,d] |

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Figure 5. Kolmogorov-Smirnov test

### *4.4 Simple Linear Regression*

The significance value obtained from the t test shows that there is a significant cause-and-effect relationship between the terminal facility variable (X) and the service quality variable (Y).

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 6.559 | 1 | 6.559 | 6.260 | .016[b] |
| | Residual | 50.293 | 48 | 1.048 | | |
| | Total | 56.853 | 49 | | | |

a. Dependent Variable: Total_Y
b. Predictors: (Constant), X

Figure 6. Simple Linear Regression test result

The calculated t value which is much greater than the critical t value indicates that the effect of terminal facilities on passenger service quality is highly statistically significant.

**Coefficients[a]**

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 18.073 | 1.674 | | 10.796 | .000 |
| | X | .073 | .029 | .340 | 2.502 | .016 |

a. Dependent Variable: Total_Y

Figure 7. T Test result

## 5. CONCLUSION

The analysis that has been carried out shows that there are several facilities at Halu Oleo Kendari Airport that do not meet the requirements as stipulated in PM Number 41 of 2023 concerning Airport Services. Referring to the results of observations and interviews conducted, the discovery of several facilities that do not meet the existing rules, the form of optimisation is the repair and improvement and fulfilment of availability focused on the departure waiting room area and hallway (departure hall). We can conclude that the optimisation of terminal facilities affects the improvement of service quality. The more optimal the terminal facilities are in providing services, the more the services provided to passengerswill increase.

## REFERENSI


[1] Ataline Muliasari. *Kajian tentang Fasilitas Sisi Darat Bandara Ngurah Rai*. Jurnal Internasional https://doi.org/10.25104/wa.v35i4.7 3.162- 192 Bungin, B.2013. Metodologi penelitian sosial dan ekonomi: format-format kuantitatif dan kualitatif untuk studi sosiologi, kebijakan publik, komunikasi,
manajemen, dan pemasaran (1st ed.). Jakarta: Kencana Prenada MediaGroup

[2] Achmad Zultan Mansur, Budi Setiawan, & Yahya, K. (2020). *Studi Pelayanan Dan Fasilitas Terminal Penumpang Bandar Udara Di Ibukota Provinsi Kalimantan Utara*. PADURAKSA: Jurnal Teknik Sipil Universitas Warmadewa, 9(2), 212–228

[3] Gita Angga Resti, Simon Sumanjoyo Hutagalung. (2019). *PELAYANAN BANDAR UDARA RADIN INTEN II PASCA TRANSFORMASI MENJADI BADAN LAYANAN UMUM*

[4] Keputusan Direksi PT Angkasa Pura 1 Nomor KEP.87/OM.02.02/2018 *tentang Standar Operasional Fasilitas Sisi Darat (Manual Of Standard Land Side Operation Facility) Pada Bandar Udara Yang Dikelola PT Angkasa Pura 1*

[5] Lita Yarlina. *Evaluasi Fasilitas Sisi Darat Bandara Sultan Thaha Jambi Sebagai Bandar Udara Internasional*. Jurnal Internasional https://doi.org/10.25104/wa.v37i3.1 70.245- 260

[6] Nissa, H., & Awan. (2022). *Pengaruh Fasilitas Kenyamanan Terhadap KepuasanPenumpang Di Bandar Udara Internasional Supadio Pontianak. Jurnal Ground Handling Dirgantara*, 4(1), 17–26.

[7] Nugroho. (2003). *Pergeseran Kebijakan dan Paradigma Baru dalam Pengelolaan Daerah Aliran Sungai di Indonesia*. Jurnal Teknologi Lingkungan BPPT.

[8] Nur Rahmadiansyah, Esti Nur Wakhidah. (2022*). Pengaruh Fasilitas Publik Terhadap KepuasaanPenumpang di Bandar Udara IskandarPangkalanBun* https://journal.upy.ac.id/index.php /pkn/article/download/3538/pdf/8 624 Volume 6, Nomor 2

[9] Nur Rahmadiansyah, Esti Nur Wakhidah. (2022*). Pengaruh Fasilitas Publik Terhadap Kepuasaan Penumpang di Bandar Udara Iskandar PangkalanBun* https://journal.upy.ac.id/index.php /pkn/article/download/3538/pdf/8 624 Volume 6, Nomor 2

[10] Oetama, s.(2017). *Pengaruh Fasilitas dan Kualitas Pelayanan Terhadap Kepuasan Penumpang Nasabah Pada Pt. Bank Mandiri* (persero) Tbk Di Sampit. (2001),59-65.

[11] Peraturan Menteri Nomor 41 Tahun 2023 tentang Pelayanan Jasa Kebandarudaraan di Bandar Udara Peraturan Menteri Nomor PM 36Tahun 2021 tentang Standarisasi Fasilitas Bandar Udara

[12] R. Endro Wibisono, Buger Wijaya Yuana. (2022). *Optimalisasi Pelayanan Penumpang PT. Angkasa Pura Cabang I (Persero) Dari Sisi Darat (Landside) Terminal Domestik Bandara JuandaSurabaya* https://journal.umsurabaya.ac.id/Agregat/issue/view/701Volume 7, Nomor 2

[13] Siregar. (2014). Statistik Parametik Untuk Penelitian Kuantitatif: Dilengkapi dengan Perhitungan Manual dan Aplikasi SPSS Versi 17. Jakarta : Bumi Aksara, 2014.

[14] Subekti, S. (2014). *Analisis Kualitas Pelayanan Terminal Bandar Udara Berdasarkan Persepsi Penumpang* (Studi Kasus : Bandar Udara Sentani Jayapura).5,275–284.

[15] Sugiyono. (2019). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung : Alfabeta, 2019. Sutrisno Hadi dalam Sugiyono. (2013). *Teknik pengamatan/observasi*.