ANALYSIS OF PASSENGER TERMINAL SERVICE QUALITY LEVEL AT BANYUWANGI AIRPORT

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Keywords	ABSTRACT
analysis of hierarchical process (AHP); Banyuwangi Airport; passenger terminal; service quality	Banyuwangi Airport has become an important air transportation facility in East Java, playing a strategic role as a gateway to leading tourist areas. This study aims to identify the current level of service quality of the passenger terminal at the airport, understand the factors that influence its performance, and develop evidence-based recommendations to improve service quality. A systematic research design was implemented, encompassing stages from problem identification to data analysis and report preparation. The primary objective was to identify aspects of terminal services needing improvement to enhance user satisfaction, guided by initial observations and literature reviews. The analysis of hierarchical processes (AHP) method was employed for data analysis, focusing on assessing criteria weights through pairwise comparisons to generate improvement recommendations. The results indicate that passenger satisfaction varies significantly across different types of facilities. Several concrete steps and strategic recommendations are proposed to enhance service quality and address the identified gaps.

INTRODUCTION

The passenger terminal is one of the main elements that reflect the quality of service at an airport. Facilities such as waiting areas, check-in services, and security systems are vital components that not only support operations, but also create comfort for passengers. Good management can improve efficiency and service user satisfaction (Horonjeff, 1986). Inadequate terminal capacity can reduce the user experience, which in turn affects the perception of Banyuwangi as a tourist destination. Travelers, both domestic and international, expect fast, convenient and high-quality services when using airport facilities (Juniawan, 2018; Mtafya & Mutalemwa, 2024; Sun & Huang, 2022).

Banyuwangi Airport has become an important air transportation facility in East Java, playing a strategic role as a gateway to leading tourist areas. The airport not only provides air connectivity but also serves as a starting point for tourists to explore the beauty of Banyuwangi, such as Ijen Crater and Baluran National Park (Atmadjati, 2014). Over time, the surge in the number of tourists visiting Banyuwangi created pressure on the capacity and service quality of the passenger terminal. Key challenges include limited terminal space, inefficient passenger circulation, and suboptimal baggage and information services (Mansur et al., 2020).

Improving the quality of terminal services is also in line with government efforts to promote Banyuwangi as a leading tourist destination. A modern and international standard terminal will increase tourist attraction while supporting local economic growth (Morlock, 1994). Passenger terminals should not only provide basic facilities but also create an overall experience for passengers. Elements such as nursing rooms, children's play areas, as well as environmentally friendly architectural designs are an important part of creating a good impression (Yazgan et al., 2024; Young, 2024).

Banyuwangi Airport has taken concrete steps to increase terminal capacity through the construction of a new terminal in 2019. This project aims to accommodate the increasing number of passengers who continue to grow every year (Angkasa Pura, 2020). User loyalty is an important asset for airport managers. The positive experience passengers have when using terminal facilities can encourage them to return to use the same service in the future. Thus, improving service quality is an urgent need (Horonjeff, 1986).

To overcome this problem, the Indonesian government through the Minister of Transportation Regulation Number 41 of 2023 has set airport terminal service standards. This regulation is designed to ensure safety, comfort, accessibility, and the provision of reliable information for service users. In addition, efficient passenger circulation management, responsive information services, and technological facilities such as self-check-in counters are becoming increasingly relevant needs. This is important to support more modern and user-friendly airport operations (Saaty, 1990).

Research using the AHP method at various airports shows that aspects of waiting room comfort, check-in process efficiency, and security are of primary concern. These factors have a direct influence on passenger satisfaction and their loyalty to airport services (Goepel, 2013; Morlock, 1994). As one of the strategic measures, the use of the Analytical Hierarchy Process (AHP) method provides a systematic approach in evaluating terminal service performance. This method allows the identification of prioritized factors that need to be improved to create an optimal service (Hardiman, 2018; Saaty, 1990).

The service standards implemented include important elements such as space layout, speed of check-in process, and ease of access to various facilities. Effective implementation is expected to increase user satisfaction and the competitiveness of Banyuwangi Airport at the national and international levels. However, increasing capacity is not enough if it is not accompanied by an increase in service quality. Airport managers need to ensure that existing facilities and services can meet the needs and expectations of users holistically (Juniawan, 2018).

Banyuwangi Airport is a strategic facility that supports the tourism sector in East Java, especially as an entry point to leading destinations such as Ijen Crater and Baluran National Park. As the number of domestic and international tourists increases, the quality of passenger terminal services is a crucial factor that affects the experience of air transportation service users. Service standards that include elements such as space layout, speed of check-in process, and ease of access to various facilities have been implemented to improve user satisfaction and airport competitiveness at the national and international levels. However, increasing capacity is not enough if it is not accompanied by improvements in service quality. Airport managers need to ensure that existing facilities and services are able to meet the needs and expectations of users holistically (Juniawan, 2018). Using the Analytical Hierarchy Process (AHP) approach, this study aims to identify the current level of service quality of the passenger terminal at Banyuwangi Airport, understand the factors that influence its performance, and develop evidence-based recommendations to improve

service quality. This is expected to make the terminal a key supporter of sustainable tourism development in Banyuwangi.

The study on Banyuwangi Airport's service quality focuses on evaluating passenger terminal services using the Analytical Hierarchy Process (AHP), highlighting user satisfaction and identifying areas for improvement. Previous research provides important guidance in evaluating the quality of passenger terminal services at various airports. Mansur et al. (2020) conducted a study in North Kalimantan using the IPA method to assess passenger satisfaction with terminal facilities, which resulted in service attributes that need to be improved based on priority levels. In contrast, Siddiq et al. (2024) analyze public transport facilities across various hubs, lacking the specificity needed for airport service quality, while Saribanon et al. (2021) emphasize improving user satisfaction at international airports without employing the AHP method or providing a structured framework for regional airports. This research addresses a gap by concentrating on specific factors influencing passenger satisfaction at a regional airport and offers unique insights aligned with the Indonesian Ministry of Transportation Regulation No. 41 of 2023, thus enhancing understanding of local dynamics in airport service quality.

The hypotheses used were:

1) Hypothesis 1: Comfortable and adequate waiting room facilities significantly increase the level of passenger satisfaction at Banyuwangi Airport.
2) Hypothesis 2: Self check-in service efficiency has a positive influence on user perceptions of terminal service quality.
3) Hypothesis 3: Non-optimized passenger circulation areas have a negative impact on the user experience of the passenger terminal at Banyuwangi Airport.
4) Hypothesis 4: Improving the quality of baggage services can increase the level of passenger satisfaction and loyalty to airport services.
5) Hypothesis 5: Effective implementation of service standards, as stipulated in the Minister of Transportation Regulation, can improve the competitiveness of Banyuwangi Airport at the national and international levels.

METHODS

This research adopted a quantitative approach utilizing the Analysis of Hierarchical Processes (AHP) method to evaluate service quality and identify factors influencing services at the Banyuwangi Airport Passenger Terminal. A systematic research design was implemented, encompassing stages from problem identification to data analysis and report preparation. The primary objective was to pinpoint aspects of terminal services needing improvement to enhance user satisfaction, guided by initial observations and literature reviews. The literature study provided a theoretical foundation, covering service quality concepts and AHP methodology, thereby establishing analysis criteria for the research.

Data collection involved both primary and secondary sources. Primary data was gathered through questionnaires distributed to airport passengers, while secondary data was sourced from official documents and internal airport reports. The AHP method, facilitated by AHPcalc software, was employed for data analysis, focusing on assessing criteria weights through pairwise comparisons to generate improvement recommendations. The study targeted Banyuwangi Airport Terminal passengers, utilizing accidental sampling with 97 respondents. Over two months, the research evaluated the quality of terminal services, employing structured instruments to ensure reliable data for comprehensive analysis and actionable recommendations.

Table 1. AHP Comparison Scale

Tiers Interests	Definition	Description
1	Equally Important	Both elements have the same influence
3	Somewhat more important one other top	Experience and judgment are highly impartial one with an important partner whoelements compare
5	Important enough	Experiences and decisions indicate a preference for one activity over another
7	Very important	Experience and judgment show a strong preference for one activity over another
9	Absolutely more important	One element is absolutely more favorable than important with its counterpart, at the highest confidence level.
2,4,6,8	Value center between two decision values	When compromise is needed

Tiers of Interests	Definition	Description
	adjacent	
Respirocal	Opposite	If element i has one of the numbers of a comparison scale of 1 to 9 has been established by Saaty. When compared to element j, j has its opposite when compared to element i.

RESULTS

Service on Facilities Used in the Passenger Departure and Arrival Process

The results of the analysis show that the departure waiting room (A3) received the highest weight of 24.0%, followed by passenger departure reporting (A1) at 21.5%, baggage service at the arrival terminal (A4) at 19.36%, passenger and baggage inspection (A2) at 17.7%, and circulation area (A5) at 17.6%. This shows that respondents are very satisfied with the departure lounge facilities. However, the circulation area received the lowest score, indicating the need for improvement in this aspect.

Services at Facilities that Provide Comfort to Passengers

In this variable, toilet facilities (B6) received the highest weight of 16.3%, followed by facilities for users with special needs (B8) at 14.4%, cleanliness (B4) at 14.3%, room temperature conditioning (B1) at 12.1%, information services (B5) at 11.1%, lactation room (B7) at 11.1%, light conditioning (B2) at 10.9%, and ease of luggage transportation (B3) at 9.6%. These results show that toilet facilities are highly satisfactory for users, while ease of luggage transportation is the lowest priority.

Services at Facilities that Add Value

In this variable, self check-in counter facilities (C6) received the highest weight of 16.2%, followed by drinking water facilities (C7) at 15.9%, places of worship (C1) at 13.5%, internet or wifi (C4) at 13.4%, charging stations (C8) at 12.1%, children's playroom (C3) at 11.7%, smoking room (C2) at 9.0%, and airline facilities (C5) at 8.2%. Respondents were very satisfied with the self check-in counter facilities, while the airline facilities had the lowest weight, indicating the need for further development.

Table 2. AHP calculation weights

Variables	Sub-Variables	Weight (%)
A: Departure & Arrival Facilities	Departure Lounge (A3)	24,0
	Departure Reporting (Check-In) (A1)	21,5
	Baggage Service at Arrival Terminal (A4)	19,36
	Passenger and Baggage Check (A2)	17,7
	Circulation Area (A5)	17,6
B: Passenger Comfort	Restroom (B6)	16,3
	Special Needs User Facilities (B8)	14,4
	Cleanliness (B4)	14,3
	Room Temperature Conditioning (B1)	12,1
	Information Services (B5)	11,1
	Lactation Room (B7)	11,1
	Light Conditioning (B2)	10,9
	Ease of Baggage Carriage (B3)	9,6
C: Facilities with Added Value	Self Check-In Counter (C6)	16,2
	Drinking Water Facilities (C7)	15,9
	Place of Worship (C1)	13,5
	Internet/WiFi (C4)	13,4
	Charging Station (C8)	12,1
	Children's Playroom (C3)	11,7
	Smoking Room (C2)	9,0
	Airline Facilities (C5)	8,2

Source: Processed by the author

Discussion

The survey results indicate varying levels of passenger satisfaction with the facilities provided at Banyuwangi Airport. This variability underscores the importance of addressing specific areas to enhance the overall quality of service.

In the first variable, the departure lounge emerged as the key factor contributing to passenger satisfaction. This highlights the airport's success in delivering a comfortable and functional waiting room environment that meets the expectations of its users. However, the circulation area scored lower, suggesting inefficiencies that could impact passenger comfort and flow. Improvements in this area are necessary to streamline operations and enhance the passenger experience.

For the second variable, hygiene and toilet facilities received high satisfaction ratings, reflecting effective management of essential services. These results demonstrate the airport's commitment to maintaining cleanliness and ensuring basic needs are met. However, the ease of baggage transportation emerged as a weak point, presenting challenges for passengers navigating through the terminal. Addressing this issue is critical to providing a seamless travel experience.

In the third variable, self check-in counter facilities performed well, demonstrating their effectiveness in offering passengers a convenient and user-friendly option. Conversely, airline facilities were rated the lowest among all factors, indicating a significant area requiring attention. Improvements in airline service areas could involve better coordination, enhanced support services, or additional resources to elevate passenger satisfaction.

The findings of this study provide strategic insights for improving service quality at Banyuwangi Airport. Prioritizing improvements in circulation areas, baggage transportation, and airline facilities can help bridge the gap between passenger expectations and current service levels.

Implementing these enhancements would not only address the identified weaknesses but also solidify the airport's reputation as a gateway to East Java's premier tourist destinations. By adopting a proactive approach to service quality management, Banyuwangi Airport can better meet the evolving needs of its passengers, thereby contributing to the broader goals of regional tourism and economic development.

CONCLUSION

The analysis of passenger terminal services at Banyuwangi Airport reveals significant variations in satisfaction across different facilities, with high ratings for waiting rooms, toilets, and self check-in counters, indicating effective management and passenger comfort. However, shortcomings in the circulation area, baggage service facilities, and airline facilities were identified, highlighting inefficiencies and the need for improvements. To enhance service quality, the study recommends redesigning circulation areas for better flow, upgrading baggage handling systems, expanding airline facilities, strengthening stakeholder collaboration, conducting comprehensive research to understand low satisfaction causes, adopting continuous improvement practices, leveraging technology for real-time updates, and promoting the airport's role in tourism. Future research should focus on exploring the specific reasons for low ratings in identified areas, including diverse passenger demographics and the effectiveness of implemented changes, while also considering best practices from other regional airports.

REFERENCES

Angkasa Pura. (2020). *Angkasa Pura Annual Report*.

Atmadjati, A. (2014). *Manajemen Operasional Bandar Udara*. Deepublish.

Goepel, K. D. (2013). Implementing the Analytic Hierarchy Process as a Standard Method for Multi-Criteria Decision Making in Corporate Enterprises – a New AHP Excel Template with Multiple Inputs. *Proceedings of the International Symposium on the Analytic Hierarchy Process*. https://doi.org/10.13033/isahp.y2013.047

Hardiman, S. (2018). *Kajian Standar Pelayanan Terminal Penumpang Bandar Udara Rahadi Oesman, Ketapang, Kalimantan Barat* [Bachelor Thesis]. Universitas Atma Jaya.

Horonjeff, R. (1986). *Planning and design of airports*. McGraw-Hill.

Juniawan, D. M. (2018). *Kajian Kinerja Pelayanan Sisi Darat Bandara Banyuwangi Dengan Metode IPA dan SWOT* [Bachelor Thesis]. Universitas Brawijaya.

Mansur, A. Z., Setiawan, B., & Yahya, K. (2020). STUDI PELAYANAN DAN FASILITAS TERMINAL PENUMPANG BANDAR UDARA DI IBUKOTA PROVINSI KALIMANTAN UTARA. *PADURAKSA: Jurnal Teknik Sipil Universitas Warmadewa*, *9*(2). https://doi.org/10.22225/pd.9.2.1866.212-228

Morlock, E. K. (1994). *Pengantar Teknik dan Perencanaan Transportasi*. Erlangga.

Mtafya, R., & Mutalemwa, D. (2024). Exploring the Impact of Airport Services on Passenger Satisfaction in Tanzania: A Case Study of Julius Nyerere International Airport. *African Journal of Empirical Research*, *5*(4), 332–349.

Saaty, T. L. (1990). The analytic hierarchy process in conflict management. *International Journal of Conflict Management*, *1*(1). https://doi.org/10.1108/eb022672

Saribanon, E., Dwi Pratiwi, R., & Tasran, C. (2021). IMPROVE SERVICE USER SATISFACTION AT THE INTERNATIONAL AIRPORT THROUGH FACILITIES AND QUALITY OF SERVICE. *Journal of Economics, Management, Entrepreneurship, and Business (JEMEB)*, *1*(1). https://doi.org/10.52909/jemeb.v1i1.17

Siddiq, R. H. B. A., Hidayatulloh, H., Alam, M. S., Fadhillah, S. N., Yuniar, G., Valensia, W., Wulansari, A., Kurniawan, R., & Zulchumairoh, D. (2024). EVALUATION OF PUBLIC TRANSPORT FACILITIES AT PORTS, AIRPORTS, STATIONS, AND TERMINALS. *Jurnal Pensil: Pendidikan Teknik Sipil*, *13*, 193–205.

Sun, K. S., & Huang, H. H. (2022). The service quality of travel service centers in international airports in Taiwan. *Journal of Air Transport Management*, *105*. https://doi.org/10.1016/j.jairtraman.2022.102293

Yazgan, B., Dogan, O., Bakır, M., & Gun, D. (2024). Sustainable Passenger Services and Child-Friendly Airport Experience: A Case Study of Istanbul Airport. *Sustainability*, *16*(23), 10513. https://doi.org/10.3390/su162310513

Young, T. (2024). Smart Airports: Evolving Airports for a More Human-Focused Journey. In *The Routledge Companion to Smart Design Thinking in Architecture & Urbanism for a Sustainable, Living Planet* (pp. 575–583). Routledge.