ON-TIME BAGGAGE PERFORMANCE AND BAGGAGE SERVICE QUALITY: EMPIRICAL EVIDENCES OF PASSENGER SATISFACTION AT SOEKARNO – HATTA INTERNASIONAL AIRPORT INDONESIA

Librita Arifiani[1], Haerul Anwar[2], Prasadja Ricardianto[3]*, Salahudin Rafi[4], Theresye Yoanyta Octora[5]

1,2,3 Postgraduate Program, Trisakti Institute of Transportation and Logistics,
Jakarta, Indonesia
4,5 Faculty of Management and Business, Trisakti Institute of Transportation and Logistics,
Jakarta, Indonesia

Abstract: This research aimed to analyze the influence of baggage service quality on passenger satisfaction through baggage on-time performance done for passengers in Terminal 2 at Soekarno-Hatta International Airport. The main problem during the initial observation was the increased percentage of passenger dissatisfaction with the baggage handling in Terminal 2 of Soekarno-Hatta Airport. The population in this research was the passengers in Terminal 2 at Soekarno-Hatta International Airport during peak hours and the sample meeting the criteria was as many as 398 respondents using a descriptive quantitative approach. The research method used in this research was Structural Equation Model using the analytical tool of Smart-PLS 3.2.9 software. The result of this research stated that the variable of baggage on-time performance positively and significantly influences passenger satisfaction, service quality positively and significantly influences baggage on-time performance, baggage on-time performance can mediate passenger satisfaction and baggage service quality. Whereas the variable of baggage service quality had a positive and significant influence on passenger satisfaction. This research recommended the management of Soekarno-Hatta International Airport to optimize the baggage processing by maintaining operational smoothness and coordination between the airlines and ground staff.

Keywords: Baggage, Airport, Service Quality, Passenger Satisfaction, On-Time Performance

INTRODUCTION

Baggage delay in Terminal is the main factor influencing passenger satisfaction with the airport and airlines services. The Regulation of the Minister of Transportation of the Republic of Indonesia concerning Passenger Service Standards at Airports has determined the standard of baggage claim completion time. In its practice, however, there are still delays causing passenger dissatisfaction. Based on the data gathered during the observation, it can be known that there is a gap in the form of delay in the delivery time of the first baggage to the belt conveyor, where according to the regulations, it takes 20 minutes on average but in the reality, it takes 25-30 minutes on average, so that there is a gap of five to ten minutes delay. Besides, the gap of 45-60 minutes delay also happens to the delivery time of the last baggage to the belt conveyor, where according to regulations it takes 40 minutes, but in the reality, it takes 45-60 minutes on average, so that there is a gap of 5 to 20 minutes delay. In addition, there are also some obstacles making a baggage does not arrive intact to the passenger, which is caused by some cases of baggage loss and damage due to minimum control in the ground handling.

Some main factors becoming the causes of gap in the standard baggage handling according to regulations regarding the field reality are the lack of vehicles carrying baggage obstructed by the crowded traffic at the apron and ineffective coordination between the ground handling teams. Therefore, improved baggage management system, operational efficiency, as well as the coordination among airport, airlines, and ground handling service provider, become necessary measures to ensure a faster and more efficient baggage service. One of passenger satisfaction factors is service promptness, for example in the passenger baggage unloading. Promptness is an important component of passenger experience. Delay in baggage unloading causes a negative impact on the provided service quality. The OTP of airline baggage in Terminal 2 is still far from the standard threshold

determined as big as 65%. The score of OTP of Airline Baggage for domestic area is 13%, whereas the international area gets the score as big as 4%. So, it can be concluded that there are still problems of baggage handling in Terminal 2 of Soekarno-Hatta International Airport causing low score of baggage OTP. With this phenomenon, the port management and officers directly involved in the process of baggage handling must be able to improve the performance effectiveness with the appropriate strategy to provide the best quality to increase passenger satisfaction.

One of the problems in baggage handling is that the passenger baggage handling in Terminal 2 of Soekarno-Hatta International Airport uses Semi Baggage Handling System. Therefore, there are still several airlines with baggage handling exceed the time standard determined by the regulations, resulting in passenger complaints. Semi Baggage Handling System used in Terminal 2 of Soekarno-Hatta International Airport is a combination of manual and automatic methods. The baggage coming in the terminal is put on the conveyor belt and subsequently carried by ground handling officers onto the aircraft. Although it is more efficient than manual system, there are still several airlines not meeting the time standard of baggage handling as regulated. Such a delay may cause complaints from passengers who must wait longer to get their baggage. So, evaluation and improvement of baggage handling system in Terminal 2 of Soekarno-Hatta International Airport are needed to increase the efficiency and service quality as regulated. This will have a positive impact on passenger complaint.

The baggage handling process in Terminal 2 is independently performed by airline's ground handling department of ground service providers. Ground handling is one of the services with important role in airport services. Passenger service starts when the passengers buy a flight ticket, go through passenger check-in, passenger baggage check-in, and baggage labelling, go through boarding pass checking in passenger's lounge when they are boarding, and finally when the passengers arrive and get off in the destination. In the study by Khairunnaziri et al., (2025), port facilities and environment are the most frequently questioned aspects of Airport Service Quality like at Soekarno-Hatta International Airport, requiring the management to be more focused on improving the comfort for passengers at the airport. In general, good accessibility of airport terminal will relate to service quality (Dos Santos et al., 2025). In general, bad weather influences customer complaints very much because increased rainfall or temperature drop increases customer complaint, relates to uncertain on-time performance (Chow, 2015). The result od study by Suzuki, (2000) explains that aircraft passengers usually move to another airline after experiencing flight delay. So, on-time performance influences airline's market share especially through passenger experience. Another finding, de Oliveira et al., (2021), find the empirical evidence of other reasons for delayed arrival in some airports such as low ceiling condition and visibility, rainfall, and strong wind gusts. The difference between on-time performance and airline profile provides useful information for airlines and passengers to make appropriate decisions (Truong, 2016). According to the finding by Lee et al., (2022), at Jeju International Airport, South Korea, the correlation between turnaround time and the level of national airlines' delay relates to the level of delay which unpredictedly increases because of the increased volume of air traffic and trend of cumulative delay time for the sample airline compared with the Turnaround Time.

Concerning the passenger satisfaction in the research by Bakır et al., (2022), it is stated that airport staff is the most influential predictor of passenger satisfaction. The affective image of the airport service performance in passengers' mind basically relates very much to their level of satisfaction (Antwi et al., 2020). In general, passenger satisfaction at an airport has several factors, such as the availability of telecommunication, the cleanliness of toilet, the courtesy and availability of officers (Paramonovs, 2016). Some other factors influencing the level of airline passenger satisfaction are waiting time and services at the airline office, comfort during the trip, and the empathy of cabin crew in the aircraft (Lopez-Valpuesta & Casas-Albala, 2023). Cleanliness and comfort become the most prominent over all other dimensions, and it needs a better long-term management performed by airport (Alanazi et al., 2024; Relógio & Tavares, 2023). Another opinion, Al-Qatawneh et al., (2025), explains that an airport will reach a good time of baggage handling by identifying the areas of improvement, implementing solutions, and increasing customer satisfaction.

LITERATURE REVIEW AND HYPOTHESES

Passenger Satisfaction

Theoretically, according to Khan et al., (2023) customer satisfaction is someone's feeling of pleasure or

disappointment that arises due to the performance below expectations. Customer satisfaction is also customer evaluation of their experience in consuming a product or service (Mayumartiana et al., 2018; Thakur, 2019). If passengers perceive the services well, it indicates that they feel satisfied with the provided service quality (Cleopatra et al., 2023). Passenger satisfaction refers to passenger's feeling of pleasure or dislike, resulted from comparing the product function and passenger expectation (Kotler & Caslione, 2009). Passenger satisfaction has become an important focus area in the study of behaviour. This concept is based on the belief that passenger must be satisfied to make a business sustainable and profitable. Radović-Marković et al., (2017) Passenger satisfaction can be measured from the gap between the perceived quality of product or service and the expected quality before purchase. Passengers tend to be satisfied with an airline when the service quality attribute regarded as the most important is fulfilled or that attribute represents the dimension of satisfaction (Guo et al., 2017). Some researches state that passenger satisfaction plays an important role in motivating passenger behaviour for loyalty, which is implemented in the form of giving positive review, becoming repeat passengers, or recommending the product or service to others (Guo et al., 2017). On the other hand, dissatisfied passengers may reconsider to use the same airline in the next flight (Namukasa, 2013), or start a negative mouth-to-mouth promotion (that may be done electronically) which can ruin the company's reputation and image (Blodgett & Li, 2007). According to Maemunah, et al. (2023) passenger satisfaction can also be achieved through a good marketing strategy.

Baggage Service Quality

According to Zeithaml et al. (2010) passengers can judge all the service quality provided by the provider so that we can know the excellence of that service. Whereas according to Babakus & Mangold (2014) service quality is a result of expectation in the passenger's mind before using the service compared with when the passenger really feels and receives the service at the airport. According to Bitner & Hubbert (2021) service quality is the whole experience felt by the customers during the process of interaction with the service provider. Whereas according to Airports Council International (ACI), service quality at an airport is the level of passenger and airport user satisfaction with the facilities and services provided by the airport operator and related service providers (Brouder, 2010). ACI uses Airport Service Quality (ASQ) program to measure and evaluate the airport service quality around the world.

Baggage On-Time Performance

Theoretically, on-time performance of an airline is the measurement of airline reliability and can be used as an important indicator in comparison with other airlines (Kwon et al., 2021). Delay due to seasonal weather is analyzed, as well as the decreasing number of passengers during Covid-19 pandemic impacting delay factors is studied. Other researchers add, concerning On-Time Performance, it needs a study involving manpower, method, nature, machine and management, as well as using three phases of data analysis, namely data collection, data classification, and conclusion (Ratnasari et al., 2020). Punctual flight or on-time performance is very much taken into account by airlines (Girasyitia & Santosa, 2015). Meanwhile, according to Oum et al. (2020) baggage on-time performance is defined as "the reliability measurement of baggage delivery service including such factors as the time for processing and delivering baggage to passengers. According to International Civil Aviation Organization (ICAO), Baggage On-Time Performance refers to on-time performance in baggage handling, that is the ability of airlines, airport management, and related service providers to ensure passenger's baggage arrives in the destination, or along with the passenger, with no delay. On-time performance can be used as an indicator to measure the reliability and productivity of an airline. Such a Baggage OTP is very important because of its direct impact on passenger experience, especially in term of satisfaction and comfort, as well as the reputation of airline and airport. This research aims to know the influence of baggage service quality on passenger satisfaction through baggage on-time performance in Terminal 2 of Soekarno-Hatta International Airport. Based on the theoretical concept and previous researches, those influencing passenger satisfaction are the variables of service quality and Baggage On-Time Performance. Based on the description of theoretical basis and the results of previous researches, the framework of this research can be described in the conceptual model in Figure 1 and the following research hypotheses.
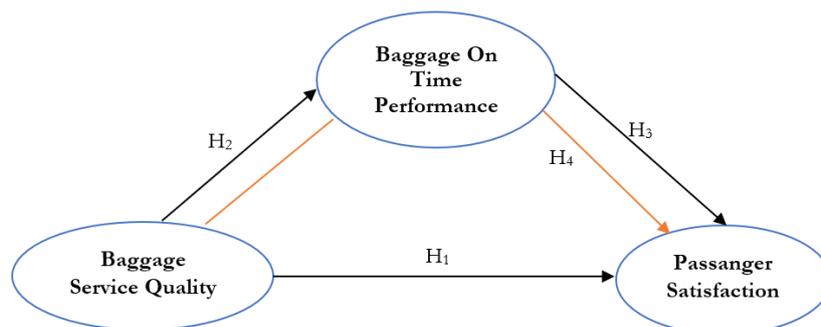
Figure 1. Conceptual Model

Research Hypotheses

H_1. Baggage service quality directly influences passenger satisfaction
H_2. Baggage service quality directly influences baggage on-time performance
H_3. Baggage on-time performance directly influences passenger satisfaction
H_4. Baggage service quality indirectly influences passenger satisfaction through baggage on time performance

RESEARCH METHODS

This research used purposive sampling technique to take the sample, where the users of airline in Terminal 2D and 2E Soekarno-Hatta International Airport were selected on the criteria: age of respondents was minimum 21 years, passengers were the users of domestic and international airlines, and had travelled using the airline at least twice. The data was collected from the passengers who arrived through Terminal 2D and E with arrival from 5 to 8 July 2024 (4 days) in the school holiday period with passengers numbering as many as 78,387 people. So, the calculation of sample number was obtained to simplify the research, with the minimum number of samples allowed in this research as many as 398 respondents. Primary data collection was carried out using survey method through distributing questionnaire to research respondents. Those who became respondents in this case were aircraft passengers in Terminal 2 of Soekarno-Hatta Airport. This research had one exogenous variable, namely baggage service quality, with four operational dimensions, namely reliability, responsiveness, assurance, and tangibles. Baggage On-Time Performance as intervening variable used four operational dimensions, namely manpower, machine, method, and media. Whereas the endogenous variable was passenger satisfaction with three operational dimensions, namely security, comfort, and price. This research conducted data analysis in several stages, nemaly model acceptance test in the structure equation modelling based on the software of SmartPLS 3.2.9, model feasibility test, and hypothesis test. The technique of data analysis in this research used Partial Least Square, with the stage of estimated outer model, consisting of convergent validity, average variance extracted, discriminant validity, composite reliability. Whereas the other stage of testing was estimated Structural Model (Inner Model) consisting of the value of R-square, Q-Square (Goodness-fit model test), and hypothesis test.

RESULTS AND DISCUSSION

Results of Measurement Model Test (Outer Model)

Based on the result of Outer Loading Test, all the statement items (indicators) have the value of loading factor bigger than 0.7. The value of loading factor bigger than 0.70 ranging from 0.713 to 0.937 indicates that all the statement items are valid and have a good convergent validity. Referring to the result of average variance extracted (AVE) test, the value of AVE for all variables are above the threshold 0.50, ranging from 0.710 to 0.870. From this value, it can be concluded that the variable has statement items with a good measurement of convergent validity.

Results of Discriminant Validity and Composite Reliability Tests

---

Based on the result of Heterotrait-Monotrait Ratio (HTMT) test, all the variables have the value of HTMT less than 0.85 ranging from 0.657 to 0.791. The value of HTMT less than 0.85 indicates that discriminant validity is well achieved, meaning that the constructs are obviously different and do not overlap significantly. Referring to the result of Composite Reliability test, the value of Cronbach's alpha of all variables are above or bigger than 0.70 ranging from 0.965 to 0.925. Besides, the result of composite reliability also indicates good numbers, where all the analyzed variables result in composite reliability value bigger than 0.60, ranging from 0.915 to 0.952. Based on the result of this analysis, it can be concluded that both exogenous and endogenous variables in this research are considered as reliable.

Results of Structural Model Test (Inner Model)

Referring to the results of $R_{squared}$ (R^2) value, the value of $R_{squared}$ (R^2) for the variable of passenger satisfaction is 0.525. This indicates that the variation of exogenous variable in this research model can only influence the variable of passenger satisfaction as big as 52.5%. Subsequently, the value of $R_{squared}$ (R^2) for the variable of baggage on-time performance is 0.530. This indicates that the variation of exogenous variable in this research model can only influence the variable of baggage on-time performance as big as 53%. Referring to the results of $Q_{squared}$ (Q^2), it indicates the value of $Q_{squared}$ (Q^2) for the variable of passenger satisfaction as big as 0.452 and the value of $Q_{squared}$ (Q^2) for the variable of baggage on-time performance as big as 0.369. The value of $Q_{squared}$ (Q^2) for the variable of passenger satisfaction and baggage on-time performance is bigger than 0, so it can be stated that this research model has a good predictability. Specifically, the value of Q^2 is the measurement used to measure the predictability of the model being tested. The value of Q^2 above 0 indicates that the model has a quite good ability to predict the dependent variable.

Results of Hypothesis Test

Table 1. Results of Hypothesis Test

Research Hypothesis		Original Sample	T Statistics	P Values
H₁	Baggage service quality → Passenger satisfaction	0.462	7.983	0.000
H₂	Baggage service quality → Baggage On-Time Performance	0.793	28.273	0.000
H₃	Baggage On-Time Performance → Passenger satisfaction	0.317	5.020	0.000
H4	Service quality → Baggage On-Time Performance → Passenger satisfaction	0.251	4.769	0.000

It can be seen in Table 1 that the results of all research hypotheses have p-value less than 0.05, so it can be stated that all the alternative hypotheses are accepted. Thus, there is a significant impact of the variable of baggage service quality on passenger satisfaction, baggage service quality on baggage on-time performance, and baggage on-time performance on passenger satisfaction. Meanwhile, the variable of baggage on-time performance can mediate the relationship between baggage service quality and passenger satisfaction.
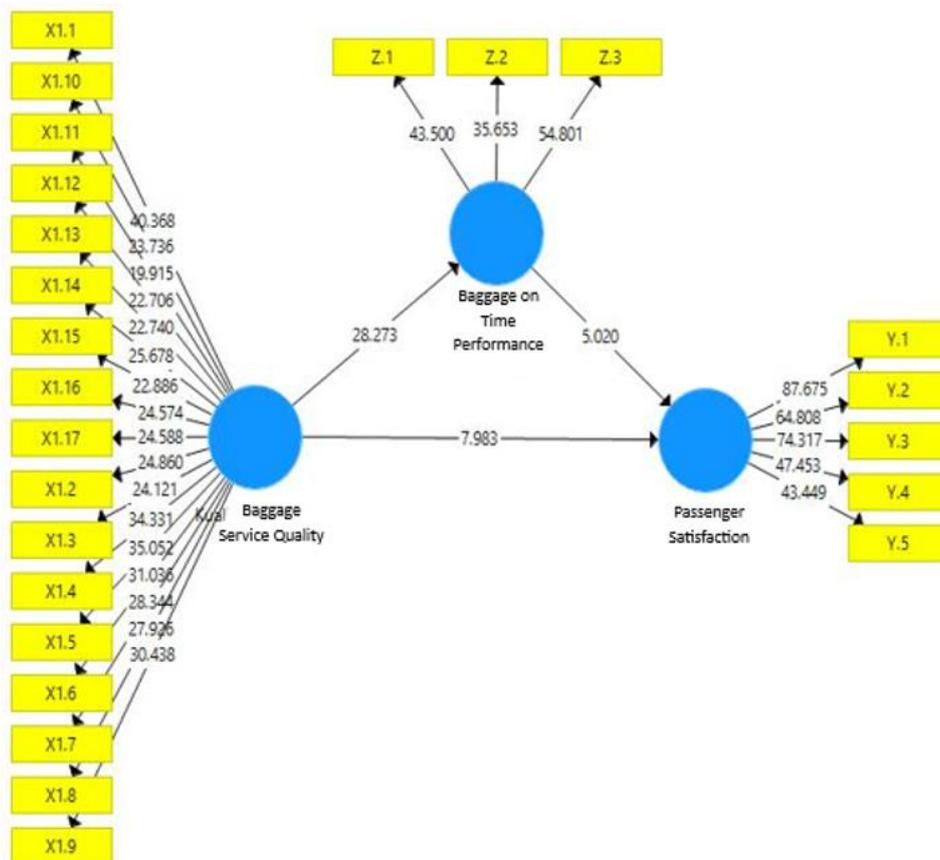
Figure 2. Analysis of Path Coefficient (Inner Model)

Discussion

H1: Bagage service quality dan passenger satisfaction

From the results of hypothesis test presented in Table 1, the value of t-statistics is obtained as big as 7.983 and the original sample has a positive value as big as 0.462. Besides, the resulted p-value is 0.000. Since the value of original sample shows positive direction and p-value is below the significance value of 0.05, then the alternative hypothesis is rejected. Good baggage service quality directly contributes to the increase of passenger satisfaction because it gives travelling experience which is suitable with or even exceeds the expectation. Such factors as prompt service, facility comfort, as well as professional and friendly attitude of the officers create a positive image for passengers. In addition, the ease to access the responsive services and handling toward passenger need gives distinct added value. Consistency in providing satisfying services also strengthens passenger's confidence and loyalty to the transportation service provider. Experience and subjective perception also play roles in the way passengers evaluate the services. The results of this study support the previous research by Nugroho et al. (2021), Walia et al. (2021), Herman (2022), and Pasaribu et al., (2023), which explain that there is a positive and significant influence of service quality on passenger satisfaction. In general, this study is in line with Maemunah et al. (2023), who also explain that good service quality will result in high satisfaction. The result of the first hypothesis test related to Airport Service Quality is in line with the findings by Ardiansyah et al., (2019), and Usman et al., (2023) because they say that service quality influences passenger satisfaction. The other result is also in line with Nugroho et al. (2021) showing that service quality has a significant impact on customer satisfaction. Specifically in baggage handling, this research also supports the finding, because service quality influences passenger satisfaction (Fadhilla et al., 2019). Thus, based on the result of this hypothesis test, it can be stated that the variable of service quality positively and significantly influences the variable of passenger satisfaction.

H2: Baggage service quality and Baggage On-Time Performance

Based on the result of hypothesis test presented in Table 1, the value of $t_{statistics}$ is obtained as big as 28.273 and the original sample has a positive value as big as 0.793. Besides, the resulted p_{value} is 0.000. Because the value of original sample shows positive direction and p_{value} is below the significance threshold 0.05, then the alternative hypothesis is accepted. This finding shows that service quality has a positive and significant impact on baggage on-time performance. Service quality influences positively on-time performance because good and efficient management accelerates the process baggage movement. Good services like appropriate staffing, supporting facilities, and organized system can ensure the baggage is moved with no delay. In addition, attention to punctuality and good cooperation between ground handling teams helps accelerate the process of baggage loading and unloading. With optimum service quality, operational process becomes more efficient, which finally improve the punctuality of flight and baggage. The result of this study supports the previous research by Nurpiyanti et al. (2019) where there is a positive and significant impact of service quality on baggage on-time performance. The second hypothesis supports the research by Fransz & Susanto, (2024), that flight punctuality is the main factor to compete, and good service quality of flight encourages consumers to reuse the flight service. The result of this study can also support the previous researches condusted by Arifianto et al. (2013) and Nurpiyanti et al. (2019) where there is a positive and significant impact of baggage service quality on baggage on-time performance. Thus, based on those previous studies, it can be stated that the variable of service quality positively and significantly influences the variable of baggage on-time performance.

H3: Baggage On-Time Performance and passenger satisfaction

Based on the result of hypothesis test presented in Table 1, the value of $t_{statistics}$ is obtained as big as 5.020 and the original sample has a positive value as big as 0.317. Besides, the resulted p_{value} is 0.000. Because the value of original sample shows positive direction and p_{value} is below the significance threshold 0.05, then the alternative hypothesis is accepted. This finding shows that baggage on-time performance has a positive and significant impact on passenger satisfaction. Baggage on-time performance has a significant influence on passenger satisfaction because passengers expect a quick and smooth process of baggage claim soon after arriving at an airport. When baggage arrives on time, passengers feel satisfied so that it can create positive experiences. On the contrary, late baggage can cause disappointment and discomfort, that can have a negative impact on passenger satisfaction. Therefore, punctual baggage plays an important role to increase experience and passenger satisfaction. The result of this study can support the previous researches condusted by Ricardianto et al., (2023), Disastra (2022) and Nurpiyanti et al. (2019) where there is a positive and significant impact of service quality on baggage on-time performance. The result of the fifth hypothesis test supports the study by Effendie et al., (2025), that on-time performance has positive and significant direct contribution to passenger satisfaction. Thus, based on those previous studies, it can be stated that the variable of baggage on-time performance positively and significantly influences the variable of passenger satisfaction.

H4: Baggage service quality mediated by baggage On-Time Performance on passenger satisfaction

Based on the result of hypothesis test presented in Table 1, the value of $t_{statistics}$ is obtained as big as 4.769 and the original sample has a positive value as big as 0.251. Besides, the resulted p_{value} is 0.000. Because the value of original sample shows positive direction and p_{value} is below the significance threshold 0.05, then the alternative hypothesis is accepted. This finding shows that service quality has a positive and significant impact on passenger satisfaction mediated by baggage on-time performance. Baggage on-time performance can mediate the relationship between service quality and passenger satisfaction because punctual baggage transportation and unloading are indicators of achieving a good service quality. When the baggage is received by passengers on schedule, it can increase their satisfaction and they give the best perception of service delivery by both the airport and the airline. On the contrary, if baggage delay occurs, passengers feel disappointed and present bad judgement over the service quality provided by both the airport and the airline. So, baggage on-time performance is an important indicator to be paid attention in the service delivery to increase passenger satisfaction. The result of the seventh hypothesis test is closely related to the findings (Nurpiyanti, Rizqiana, Apriyadi, Firdaus, et al., 2019). The result of this research is in line with the previous study conducted by Nurpiyanti et al. (2019) over 50 passengers of Lion Air, indicating that service quality and baggage on-time performance have a significant impact on customer satisfaction. Thus, based on those previous studies, it can be stated that the variable of service quality positively and significantly influences the variable of passenger satisfaction mediated by the variable of baggage on-time performance.

CONCLUSIONS AND IMPLICATION

Baggage service quality positively and significantly influences passenger satisfaction, meaning that good baggage service quality can increase passenger satisfaction. Better service quality like the cleanliness of baggage claim area, punctual baggage handling, and friendly officers can increase the satisfaction perceived by passengers. Optimum services in each point of interaction at an airport can create a joyful travel experience and improve passenger's positive perception of the overall airport services. Baggage service quality positively and significantly influences baggage on-time performance, meaning that the better service quality in baggage handling provided by all airport officers and airlines, the higher the baggage punctuality to get to the passengers. The indicator of baggage service quality variable that is most influential based on the value *t-statistics* in the path coefficient is X.1, that is the statement "Waiting area around the place of baggage claim is comfortable (lighting, seats, ventilation)." Based on that, it can be concluded that the area of waiting for baggage claim related to comfort becomes an important point in passenger's evaluation. The more comfortable the area of waiting for baggage claim, the higher the baggage service quality at the airport. This can also increase passenger satisfaction with the services provided by the airport and airlines.

Baggage on-time performance positively and significantly influences passenger satisfaction. It means the more on time the officers and airlines perform baggage handling related to the process of baggage transportation and unloading, the higher the passenger satisfaction with the airline services. The most influential indicator of variable baggage on-time performance based on the value of *t-statistics* in the path coefficient is Z.3, that is the statement "Baggage can be received in intact physical condition and without damage." It can be accordingly concluded that majority passengers expect the received baggage is in good condition and not to be exchanged with other passenger's baggage. Baggage labelling facilitates passengers much in making identification in the baggage claim, so that it can reduce errors such as exchanged baggage with other passenger's baggage or even facilitate tracing the lost baggage. Baggage on-time performance can mediate the influence of baggage service quality on passenger satisfaction, meaning that good baggage service quality can increase passenger satisfaction significantly and in the long term. Service quality relates many things, among others are on-time passenger baggage handling and the guarantee of keeping the baggage secured during the trip until it is delivered to the passenger as soon as it has arrived at the destination airport. Therefore, the better baggage handling the better service quality provided, enabling an increased passenger satisfaction.

All the management and officers of Soekarno-Hatta Airport need to pay attention to baggage service quality provided for passengers. It is expected that the provided baggage service quality can exceed passenger expectation so that it can create a good image and increase passenger visit to Soekarno-Hatta Airport. To ensure the baggage arrive on time at Soekarno-Hatta Airport, the management needs to optimize the baggage processing by maintaining the operational smoothness and coordination between airlines and ground/terminal staff. Routine trainings and clear standard procedures are also important for process acceleration. The use of technology for monitoring and increasing efficiency can reduce delay and enhance passenger experience.

REFERENCES

1. Al-Qatawneh, L., Arafeh, M., Barghash, M., Shihabeddin, F., Mahmoud, S., & Odeh, A. (2025). Improving baggage handling time at an international airport using Six Sigma methodology: A case study in the Middle East region. *International Journal of Engineering Business Management*, *17*, 18479790251322345.
2. Alanazi, M. S. M., Li, J., & Jenkins, K. W. (2024). Evaluating Airport Service Quality Based on the Statistical and Predictive Analysis of Skytrax Passenger Reviews. *Applied Sciences*, *14*(20), 9472.
3. Antwi, C. O., Fan, C. jun, Ihnatushchenko, N., Aboagye, M. O., & Xu, H. (2020). Does the nature of airport terminal service activities matter? Processing and non-processing service quality, passenger affective image and satisfaction. *Journal of Air Transport Management*, *89*. https://doi.org/10.1016/j.jairtraman.2020.101869
4. Ardiansyah, F. N., Yuniawati, Y., & Ridwanudin, O. (2019). The Influence of Airport Service Quality toward Passenger Satisfaction. *In 3rd International Seminar on Tourism (ISOT 2018)*, (pp. 370-374).
5. Arifianto, M. Y., & Dwiyanto, B. M. (2013). Analisis On-Time Performance Sebagai Upaya Mengawasi Kualitas Menggunakan Metode Diagram Kontrol dan Meningkatkan Kualitas Jasa Menggunakan Metode Pareto Chart dan Diagram Sebab-Akibat. In *Diponegoro Journal of Management*. (Doctoral dissertation,

Fakultas Ekonomika dan Bisnis).

6. Babakus, E., & Mangold, W. G. (2014). Adapting the Servqual Scale to a Private Hospital Emergency Services: An Empirical Investigation. *Chinese Business Review*, *13*(05). https://doi.org/10.17265/1537-1506/2014.05.001

7. Bakır, M., Akan, Ş., Özdemir, E., Nguyen, P. H., Tsai, J. F., & Pham, H. A. (2022). How to achieve passenger satisfaction in the airport? Findings from regression analysis and necessary condition analysis approaches through online airport reviews. *Sustainability*, *14*(4), 2151.

8. Bitner, M. J., & Hubbert, A. R. (2021). Encountering service: The essence of service experience. *Journal of Service Research*, *23*(3), 325–340. https://doi.org/https://doi.org/10.4337/9780857938855.00019

9. Blodgett, J. G., & Li, H. (2007). Assessing the effects of post-purchase dissatisfaction and complaining behavior on profitability: a Monte Carlo simulation. *Journal of Consumer Satisfaction, Dissatisfaction & Complaining Behavior*, *20*, 1–14.

10. Brouder, A. (2010). Airports Council International. In *In Handbook of Transnational Economic Governance Regimes* (pp. 731-745).). Brill Nijhoff.

11. Chow, C. K. W. (2015). On-time performance, passenger expectations and satisfaction in the Chinese airline industry. *Journal of Air Transport Management*, *47*, 39–47.

12. Cleopatra, C., Eko, S., Solikin, Saptana, Febriyanti, & Maemunah, S. (2023). Customers Satisfaction of Port Services Hunimua Central Maluku. *Jurnal ManajemenTransportasi Dan Logistik*, *10*(2), 177–186.

13. de Oliveira, M., Eufrásio, A. B. R., Guterres, M. X., Murça, M. C. R., & de Arantes Gomes, R. (2021). Analysis of airport weather impact on on-time performance of arrival flights for the Brazilian domestic air transportation system. *Journal of Air Transport Management*, *91*(101974), https://doi.org/10.1016/j.jairtraman.2020.101974.

14. Disastra, inneke febryana. (2022). Pengaruh Penaganan Bagasi Terhadap Kepuasaan Penumpang Maskapai Citilink Oleh Pt Gapura Angkasa Di Bandar Udara Internasional Juanda Surabaya. *Kewarganegaraan*, *6*(1), 11.

15. Dos Santos, I., Camarotto, J. A., & Tonin, L. A. (2025). How Airport Service Quality and Accessibility are Mutually Dependent. *In AIAA SCITECH 2025 Forum*, (p. 2448).

16. Effendie, S. G., Majid, S. A., Setiawan, I., Arubusman, D. A., & Tatiana, Y. (2025). The Influence of The On-Time Performance, Flight Schedules, Ticket Prices, and Passenger Satisfaction in Determining Customer Loyalty in Indonesian Garuda Airlines. *International Journal of Social Science*, *4*(5), 555-564. https://doi.org/DOI: https://doi.org/10.53625/ijss.v4i5.9705

17. Fadhilla, R., Zimbalis, A., Setyawati, A., & Anthony, D. (2019). The impact of price fairness and service quality on customer satisfaction and loyalty of lion air airlines due to paid baggage policy on domestic flights at Soekarno Hatta Airport. *Advances in Transportation and Logistics Research*, *2*, 170-177.

18. Fransz, J. F., & Susanto, E. (2024). The Influence of On-Time Performance, Price, and In-Flight Service Quality on Consumer Repurchase Decisions For Citilink Airlines. *Journal of Management and Energy Business*, *4*(2).

19. Girasyitia, G., & Santosa, W. (2015). Evaluasi on Time Performance Pesawat Udara Di Bandar Udara Husein Sastranegara. *Jurnal Transportasi*, *15*(2), 143–150.

20. Guo, Y., Barnes, S. J., & Jia, Q. (2017). Mining meaning from online ratings and reviews: Tourist satisfaction analysis using latent dirichlet allocation. In *Tourism Management* (Vol. 59, Issue September 2021). https://doi.org/10.1016/j.tourman.2016.09.009

21. Herman, H. (2022). Impact of Service Quality on Customer Satisfaction: A Case Study in Educational Institutions. *ADPEBI International Journal of Business and Social Science*, *2*(1), 39–45. https://doi.org/10.54099/aijbs.v2i1.104

22. Khairunnaziri, M., Gunung, M. A., Hafiz, M., & Ruldeviyani, Y. (2025). Identification of Airport Service Quality using Sentiment Analysis at Soekarno-Hatta International Airport. *The Indonesian Journal of Computer Science*, *14*(1).

23. Khan, M. A., Patel, R. K., Pamidimukkala, A., Kermanshachi, S., Rosenberger, J. M., Hladik, G., & Foss, A. (2023). Factors that determine a university community's satisfaction levels with public transit services. *Front Built Environ*, *May*, 1–12. https://doi.org/10.3389/fbuil.2023.1125149

24. Kotler, P., & Caslione, J. A. (2009). How marketers can respond to recession and turbulence. *Journal of Customer Behaviour*, *8*(2), 187–191. https://doi.org/10.1362/147539209x459804

25. Kwon, B. H., Jung, J. Y., & Kim, H. D. (2021). A Study on the Factors that Affect the On-Time Performances of Airline Companies. *Journal of Advanced Navigation Technology*, *25*(5), 320-326..

https://doi.org/https://doi.org/10.12673/JANT.2021.25.4.320

26. Lee, C., Kim, D., Kim, H., & Baik, H. (2022). Correlation analysis between delay and turnaround time at Jeju International Airport. *Journal of the Korean Society for Aviation and Aeronautics*, *30*(1), 1-11.

27. Lopez-Valpuesta, L., & Casas-Albala, D. (2023). Has passenger satisfaction at airports changed with the onset of COVID-19? The case of Seville Airport (Spain). *Journal of Air Transport Management*, *108*. https://doi.org/10.1016/j.jairtraman.2023.102361

28. Maemunah, S., Batista, R., Priadi, A. A., Indrawan, R., & Sijabat, E. A. S. (2023). Marketing Strategy to Increase Port Competitiveness. *Jurnal Manajemen Transportasi & Logistik (JMTRANSLOG)*, *10*(1), 59. https://doi.org/10.54324/j.mtl.v10i1.1091

29. Maemunah, S., Damanik, A. I. N., Yuliyanto, A., Sembiring, H. F. A., Sugiyanto, S., & Setiawan, E. B. (2023). Price Competitiveness and Service Quality Have an Impact on Ship Agency Contributions. *Jurnal Manajemen Transportasi & Logistik (JMTRANSLOG)*, *10*(2), 186. https://doi.org/10.54324/j.mtl.v10i2.1137

30. Mayumartiana, T., Aulia, A., Octora, Y., & Setiawan, E. B. (2018). The Effect of Price Fairness and Service Convenience on Customer Satisfaction and Its Impact on Customer Loyalty (Case Study : Indonesia AirAsia). *Advances in Transportation and Logistics Research*, 708–715.

31. Namukasa, J. (2013). The influence of airline service quality on passenger satisfaction and loyalty the case of Uganda airline industry. *TQM Journal*, *25*(5), 520–532. https://doi.org/10.1108/TQM-11-2012-0092

32. Nugroho, B. A., Zulkifli, Z., & Sihite, M. (2021). Strategi Memaksimalkan Tingkat Pemilihan Penumpang Terhadap Bandara Internasional Yogyakarta Berbasis Kepuasan Penumpang Yang Dipengaruhi Oleh Kualitas Pelayanan Dan Keunggulan Kompetitif. *Warta Ardhia*, *47*(1), 1. https://doi.org/10.25104/wa.v47i1.400.1-16

33. Nurpiyanti, R., Rizqiana, K., Apriyadi, D., & Firdaus, M. I. (2019). Impact of Service quality , On time performance and Customer satisfaction with Lion Air ' s image. *Advance in Transportation and Logistic Research*, 758–763.

34. Nurpiyanti, R., Rizqiana, K., Apriyadi, D., Firdaus, M. I., & Yuliantini, Y. (2019). Impact of Service quality, On time performance and Customer satisfaction with Lion Air's image. *Advances in Transportation and Logistics Research*, *2*, 758-763.

35. Oum, T. H., Yu, C., & Zhang, A. (2020). *Air transport and operations*. Routledge.

36. Paramonovs. (2016). Factor Analysis of Passengers' Satisfaction at "RIGA International Airport." *Economics and Business*, *27*(1), 46–52. https://doi.org/10.1515/eb-2015-0007

37. Pasaribu, L. L., Wibowo, R. P., & ... (2023). Impact Factors of Kualanamu International Airport Service Quality on Domestic Passenger Satisfaction. *… & Society (IJRS)*, *August*, 105–109.

38. Radović-Marković, M., Shoaib Farooq, M., & Marković, D. (2017). Strengthening the Resilience of Small and Medium-Sized Enterprises. *Management, Enterprise and Benchmarking in the 21st Century*, *December*, 345–356.

39. Ratnasari, D., Amanda, A. N., Darmawan, F., Warsito, T., & Amonalisa, S. (2020). The Cause And Effect Of Commercial Flight On-Time Performance (Case Study: Citilink). *In Journal of Physics: Conference Series*, (Vol. 1573, No. 1, 012025).

40. Relógio, A. T., & Tavares, F. O. (2023). An evaluation of passenger satisfaction among users of Huambo airport in Angola. *Urban Science*, *7*(2), 57.

41. Ricardianto, P., Kurniawan, I., Ikawati, I., Gutomo, T., Sijabat, E. A. S., Candrarahayu, A. M., Kusuma, I, G, N, A, E, T., Tursilarini, T. Y., Murtiwidayanti, S. Y., & Endri, E. (2023). Service quality and timeliness: Empirical evidence on the parcel delivery service in Indonesia. *Uncertain Supply Chain Management*, *11*(4), 1645-1656.

42. Suzuki, Y. (2000). The relationship between on-time performance and airline market share: a new approach. *Transportation Research Part E: Logistics and Transportation Review*, *36*(2), 139-154. https://doi.org/https://doi.org/10.1016/S1366-5545(99)00026-5

43. Thakur, R. (2019). The Moderating Role of Customer Engagement Experiences in Customer Satisfaction–Loyalty Relationship. *European Journal of Marketing*, *53*(7), 1278–1310. https://doi.org/10.1108/EJM-11-2017-0895

44. Truong, D. (2016). Developing Airline Segmentation Based on The On-time Performance. *Int J Aeronautics Aerospace Res*, *3*(5), 131–140. https://doi.org/http://dx.doi.org/10.19070/2470-4415-1600016

45. Usman, A., Azis, Y., Harsanto, B., & Azis, A. M. (2023). The impact of service orientation and airport service quality on passenger satisfaction and image: Evidence from Indonesia. *Logistics*, *7*(4), 102.

46. Walia, S., Sharma, D., & Mathur, A. (2021). The impact of service quality on passenger satisfaction and loyalty in the Indian aviation industry. *International Journal of Hospitality and Tourism Systems*, *14*(2), 136–143.

47. Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2010). Services Marketing Strategy. *Wiley International Encyclopedia of Marketing, December 2017*. https://doi.org/10.1002/9781444316568.wiem01055