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Baggage Delivery Time and Its Impact on Garuda Indonesia Passenger Satisfaction

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Abstract

This study aims to analyze the effect of Baggage Delivery Time (BDT) on passenger satisfaction with Garuda Indonesia at Sultan Syarif Kasim II Airport, Pekanbaru. The background of this research is based on the importance of post-flight services, particularly the speed of baggage delivery, as one of the key indicators of airline service quality that influences passengers' final impressions. The research employed a quantitative approach using a survey and observational design. BDT data were obtained through direct observation of ground handling performance over four days of flights, while passenger satisfaction data were collected through questionnaires completed by 98 respondents. Data analysis was conducted using simple linear regression, t-test, and coefficient of determination (R^2) with the aid of SPSS. The results showed that BDT has a positive and significant effect on passenger satisfaction, with a significance value of 0.035 (<0.05) and an R^2 of 0.045 (4.5%). These findings confirm that the faster the baggage delivery time, the higher the level of passenger satisfaction. The study recommends improving coordination between the airline and ground handling, optimizing conveyor belt facilities and Ground Support Equipment (GSE), and implementing a real-time baggage delivery monitoring system. Future research is suggested to include other variables such as staff communication quality and airport facility conditions.

Keywords: *baggage delivery time, passenger satisfaction, Garuda Indonesia*

Introduction

The aviation industry is a strategic sector that plays a vital role in connecting various regions, facilitating the flow of goods and services, and driving economic growth and tourism. The advantages of air transportation lie in its speed, accuracy, and extensive reach, making it the primary choice for long-distance travel and high-value logistics activities. In Indonesia, the role of air transportation is even more vital given its geographic location as the world's largest archipelagic nation, with more than 17,000 islands spread from Sabang to Merauke. According to the International Air Transport Association (IATA) 2025 report, global air travel demand in 2024 is projected to increase by 10.4% compared to the previous year and exceed pre-pandemic levels by 3.8%, signaling a significant industry recovery [1]. Amidst intense competition, passenger satisfaction is a key indicator of airline success. One important aspect influencing this satisfaction is post-flight service, particularly baggage delivery time (BDT), which forms the final impression passengers have before leaving the airport [2].

Several previous studies have shown that baggage service significantly impacts passenger satisfaction. Disastra and Ginusti found a 69.2% correlation between baggage handling and Citilink passenger satisfaction at Juanda Airport, Surabaya [3]. Anadwi and Nasution also showed that baggage handling had a positive and significant influence on Garuda Indonesia passenger satisfaction at Soekarno–Hatta Airport, Cengkareng [4]. However, most of these studies discuss baggage handling in general, without specifically examining the BDT variable as a single factor. Furthermore, research focusing on regional airports, such as Sultan Syarif Kasim II Airport in Pekanbaru, is still very limited, even though the operational context at regional airports has different characteristics and challenges than major airports.

This study is novel because it focuses specifically on the BDT variable as a factor influencing

passenger satisfaction of a full-service national airline at a regional airport. By using field observation and survey approaches over the same period, this study is expected to provide a more accurate empirical picture of the relationship between BDT and passenger satisfaction. The results of this study are expected to provide input for airline management and ground handling in improving baggage service performance, as well as contribute to the academic literature discussing post-flight service quality in the aviation industry.

Research Method

Research Design. This study used a quantitative approach with a survey and field observation design. This design was chosen to obtain objective empirical data regarding the relationship between Baggage Delivery Time (BDT) and passenger satisfaction. The quantitative approach allows researchers to statistically test hypotheses through structured and measurable measurements of variables. Observations were used to collect actual data regarding baggage delivery time and the suitability of handling procedures, while surveys were used to measure passenger satisfaction levels.

Data Sources and Types. The data sources in this study consisted of primary and secondary data. Primary data were obtained through observations in the form of a rubric containing indicators of baggage handling procedures. Each indicator was scored 1 if the implementation followed standard operating procedures (SOP) and 0 if it did not. Observations were conducted over four days of Garuda Indonesia flights at Sultan Syarif Kasim II Airport, Pekanbaru. In addition, primary data on passenger satisfaction was obtained through questionnaires. Secondary data were obtained from airline operational documents, First Baggage (FiBag) and Last Baggage (LaBag) records, aircraft arrival schedules, and passenger complaint reports from ground handling. The data used were quantitative, consisting of rubric observation scores and Likert-based passenger satisfaction scores.

Data Collection Techniques. Data collection was conducted using two methods. First, structured observation using a rubric consisting of several indicators, such as staff readiness, conveyor belt readiness, Ground Support Equipment (GSE) readiness, FiBag punctuality, and LaBag punctuality. Each indicator was scored as 1 (in accordance with SOP) or 0 (not in accordance with SOP). Second, a Likert-scale questionnaire was used to measure passenger satisfaction, distributed to 98 Garuda Indonesia passengers carrying checked baggage on the Jakarta-Pekanbaru route. Respondents were selected using a purposive sampling method, with the criterion being that they had claimed their baggage at Sultan Syarif Kasim II Airport in Pekanbaru.

Research Location and Time. This research was conducted at Sultan Syarif Kasim II Airport in Pekanbaru for four consecutive days on the Garuda Indonesia Jakarta-Pekanbaru route. This location was selected based on preliminary data indicating potential delays in the BDT compared to SLA standards and IATA regulations.

Data Analysis Techniques. Observation and questionnaire data were analyzed using simple linear regression to determine the effect of BDT on passenger satisfaction. The t-test was used to test the significance of the influence of independent variables on the dependent variable. The coefficient of determination (R^2) was used to measure the extent to which the independent variables explain variation in the dependent variable. All analyses were conducted using SPSS version 26 software.

Data Validity. The validity of the observational data was maintained by ensuring that the rubric assessments were conducted directly by the researcher based on field observations, without intervention from the airline or ground handling. The questionnaire data was tested for validity and reliability before use, involving 30 pilot respondents outside the main research sample.

Results and Discussion

Research Results. This study analyzed the effect of Baggage Delivery Time (BDT) on Garuda

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Indonesia passenger satisfaction at Sultan Syarif Kasim II Airport, Pekanbaru. BDT data were obtained through direct observation over four flight days (July 30–August 2, 2025) using a procedural rubric with 10 indicators in accordance with SOPs. Each indicator was scored 0 (not in accordance with SOPs) or 1 (in accordance with SOPs). Observations showed daily scores ranging from 7 to 9, with an average of 8.0 (80%), indicating good implementation of the BDT procedure. A visual representation of this can be seen in the figure below.

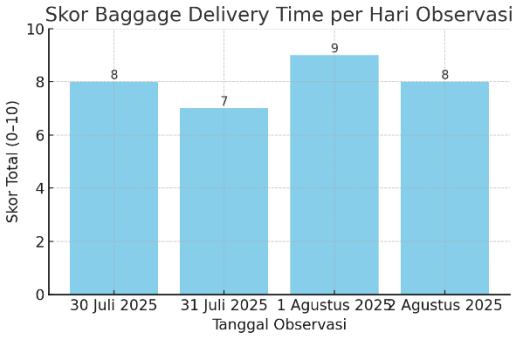

Figure 1. BDT score graph per observation day

The most consistently met indicators include recording the first and last baggage check times, handling unclaimed baggage, and coordination between staff. Conversely, priority baggage delivery and conveyor belt preparation were recurring weaknesses. The percentage implementation of BDT procedure indicators is shown in the graph of Figure 2.

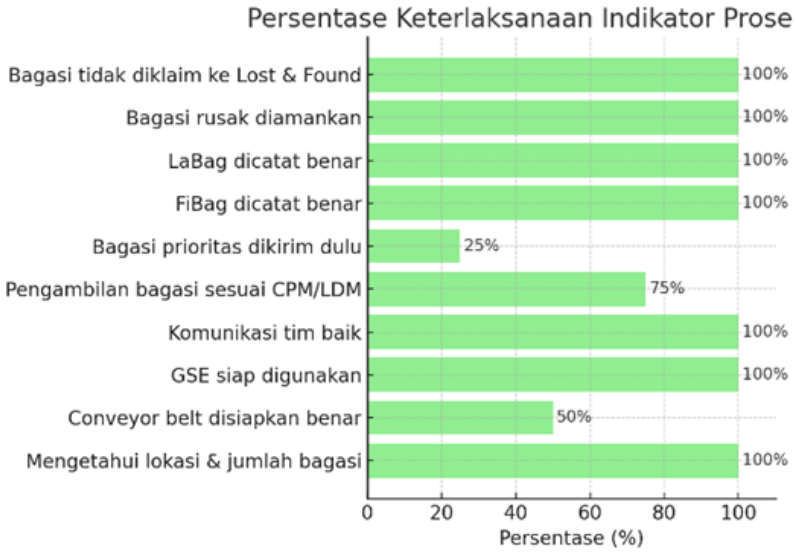

Figure 2. Graph of percentage implementation of BDT procedure indicators

Passenger satisfaction was measured using a questionnaire, with 98 respondents completing it. The average satisfaction score was 45.66 out of a maximum score of 50, indicating a high level of satisfaction. 35.7% of respondents gave the maximum score, while only 3.1% gave the lowest score (38). A detailed overview can be seen in the following pie chart.

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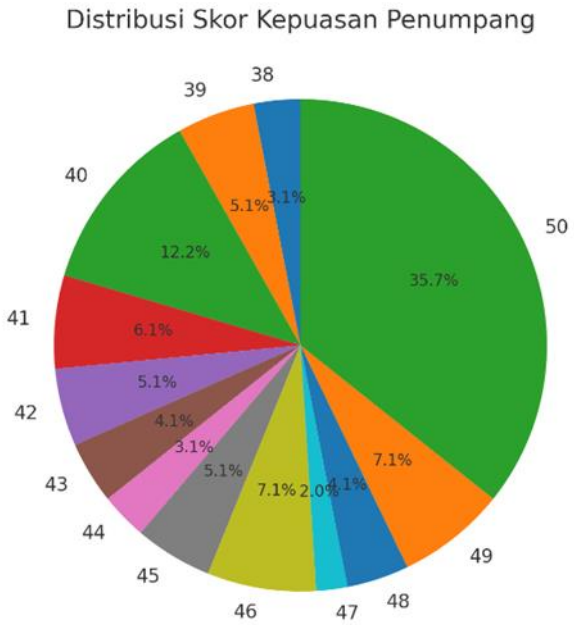

Figure 3. Pie chart of passenger satisfaction score distribution

Figure 3 shows a pie chart for the distribution of passenger satisfaction scores. Based on the data in this figure, simple linear regression analysis shows the following relationship:

$$Y = 33.454 + 1.413\ X$$

where *Y* indicates passenger satisfaction and *X* indicates BDT score or quality. Based on this equation, each unit increase in BDT quality or score will increase passenger satisfaction by 1.413 points. This indicates a positive influence of baggage delivery efficiency on passenger service perceptions. Furthermore, the t-test significance value of 0.035 ($p < 0.05$) also confirms that UDT has a positive and significant influence on passenger satisfaction. The coefficient of determination test yielded an R^2 value of 0.045, indicating that 4.5% of the variation in satisfaction can be explained by UDT, while the remaining 95.5% is influenced by other factors such as cabin service, punctuality, price, and the comfort of airport facilities.

Discussion. The results of this study indicate that UDT plays a significant role in shaping passenger service perceptions, although its quantitative contribution is relatively small. The positive significance found indicates that the more efficient the baggage delivery process, the higher the perceived level of satisfaction. This aligns with the SERVQUAL theory by Parasuraman et al., where reliability and responsiveness are key determinants of service quality. The speed of baggage delivery reflects the ability of the airline and ground handling team to deliver on their promise of fast and accurate service.

Compared with previous research, the R^2 value in this study (4.5%) is lower than the findings of Nurfebriati & Purnama [5], who recorded a 63% contribution for the same variable at Lombok Airport, or Fathurrachman [6], who found a 49.3% contribution at Ahmad Yani Airport. This difference can be explained by differences in airport characteristics, flight routes, and passenger expectations. Airports with high passenger volumes and modern facilities tend to show a greater influence of UDT on satisfaction, especially when UDT is a key service differentiator.

This finding also supports research by Anadwi & Nasution [4], which confirmed that accuracy and speed of baggage handling increase passenger satisfaction on full-service airlines. In the context of Garuda Indonesia, passengers tend to have high expectations for all aspects of service, including the post-flight phase. Failure to meet expectations at this stage can reduce satisfaction even if the service

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during the flight is good.

The low R^2 value suggests that satisfaction improvement strategies cannot rely solely on UDT. A holistic approach is needed, encompassing the integration of pre-, intra-, and post-flight services. For example, improving the comfort of the baggage lounge, a real-time information system to estimate baggage check-out times, and automated baggage sorting to ensure priority business class service.

From a managerial perspective, these results provide input for Garuda Indonesia and its ground handling partners to strengthen UBT process controls, particularly on weak indicators such as priority baggage delivery and conveyor belt readiness. Implementing a real-time performance monitoring system can help reduce deviations from SOPs. Going forward, improved UBT efficiency is expected to not only maintain customer satisfaction but also strengthen the airline's image in the highly competitive full-service segment.

Conclusion

The results of this study indicate that Baggage Delivery Time (BDT) significantly influences Garuda Indonesia passenger satisfaction at Sultan Syarif Kasim II Airport, Pekanbaru. This finding is supported by the calculated t-value (2.136), which is greater than the t-table value (1.661), and the p-value (0.035), which is below the 0.05 significance threshold. Therefore, the alternative hypothesis (H_a) is accepted. However, the coefficient of determination (R^2) of 0.045 indicates that BDT only explains 4.5% of the variation in passenger satisfaction, with the remainder influenced by factors beyond the scope of this study. This confirms that although BDT plays a significant role as part of post-flight service and contributes to passengers' final impressions, other aspects such as staff service quality, airport facility comfort, and other operational factors still contribute significantly to overall satisfaction. Based on these findings, Garuda Indonesia is advised to strengthen coordination with the ground handling team to ensure compliance with Service Level Agreement (SLA) standards, particularly for First Bag (FiBag) wait times of ≤10 minutes and Last Bag (LaBag) wait times of ≤20 minutes. It is also recommended that priority baggage handling procedures for business class passengers be optimized to ensure consistency with operational standards. Airport management should improve the readiness of supporting facilities, such as conveyor belts and ground support equipment, to minimize potential BDT delays, and adjust aircraft arrival schedules to avoid conflicts with baggage handling. For further research, it is recommended to expand the research variables to include aspects such as the quality of staff communication, the condition and layout of airport facilities, and the implementation of digital baggage tracking technology to obtain a more comprehensive picture of the factors influencing passenger satisfaction.

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