

# Mishandled Passenger Baggage on Long-Haul Flights at NAIA Terminal 3

Joecris Ballesterol Chua

Philippine State College of Aeronautics

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**Abstract:** The efficient handling of passenger baggage is essential in ensuring operational effectiveness and passenger satisfaction in airports. At Ninoy Aquino International Airport (NAIA) Terminal 3—which caters to over 9 million passengers and 40+ international airlines—baggage mishandling remains a persistent operational issue.

This study used a quantitative-descriptive design involving 120 participants to determine the most common causes of baggage mishandling and their connection to demographics. Results showed four major causes: mishandling by airport staff (Mean = 3.48), communication breakdowns (Mean = 3.33), technical issues (Mean = 3.15), and passenger errors (Mean = 3.05). Statistical analysis revealed significant differences based on age ( $p = 0.022$ ) and purpose of travel ( $p = 0.041$ ).

Recommendations include implementation of RFID tracking, refresher training for handlers, enhanced passenger awareness campaigns, and deployment of AI-based detection tools.

**Keywords:** passenger baggage, Ninoy Aquino International Airport (NAIA) Terminal 3 RFID tracking, refresher training for handlers.

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## I. INTRODUCTION

Global air travel has increased dramatically. With this rise comes the complex challenge of efficiently handling passenger baggage. NAIA Terminal 3, a major international hub in the Philippines, faces frequent cases of baggage mishandling. These issues result in lost luggage, passenger complaints, operational disruptions, and reputational damage.

According to SITA (2021), 1.4 bags per 1,000 passengers are mishandled globally. NAIA Terminal 3 reportedly exceeds this average due to volume, staffing issues, and procedural lapses. This study focuses on long-haul flights, which pose added challenges due to multiple transfer points and high baggage loads.

## II. REVIEW OF RELATED LITERATURE

Smith et al. (2020) emphasize that baggage mishandling stems from a combination of human error, technical issues, and poor communication. Globally, mishandling during flight transfers accounts for over 37% of lost bags.

SITA (2021) reports \$2.5 billion in global costs associated with mishandled baggage. Innovations like RFID and AI are emerging solutions (IATA, 2018).

Local studies also highlight inefficiencies at NAIA, particularly in baggage reconciliation protocols. The Department of Transportation (DOTr) outlines several procedures, but enforcement and system integration remain weak.

## III. RESEARCH METHODOLOGY

A descriptive-quantitative method was used. The population consisted of 120 participants: long-haul passengers, baggage handlers, and airport staff. A validated Likert-scale questionnaire was distributed and data analyzed using: - Frequency/percentage - Weighted mean - Kruskal-Wallis H Test - Mann-Whitney U Test

**IV. DATA PRESENTATION AND ANALYSIS**

*Mean Scores of Major Causes*

Cause	Mean Score
Mishandling by Staff	3.48
Communication Breakdowns	3.33
Technical Issues	3.15
Passenger Errors	3.05

**Graph 1: Mean Score Distribution of Mishandling Causes**

*Mean Score Distribution Graph*

*Statistical Differences by Demographics*

- **Age Group:** Significant ( $p = 0.022$ )
- **Purpose of Travel:** Significant ( $p = 0.041$ )
- **Gender:** Not significant ( $p > 0.05$ )

*Graph 2: Demographic Correlation with Mishandling Causes*

(Optional graph comparing age and travel purpose impact on mean scores—can be inserted upon availability of full dataset)

**V. SUMMARY, CONCLUSION & RECOMMENDATIONS**

*Findings*

1. Mishandling by airport staff was the most cited issue.
2. Communication lapses and technical problems followed.
3. Certain demographic groups (e.g., ages 30–39) reported more issues.
4. RFID technology and digital tracking were top improvement suggestions.

*Conclusion*

Baggage mishandling at NAIA Terminal 3 stems from both human and systemic issues. While existing procedures are in place, gaps in execution and passenger behavior amplify the problem.

*Recommendations*

- Implement RFID and AI-based baggage tracking.
- Regularly train baggage handlers on IATA Resolution 753.
- Launch passenger orientation campaigns on baggage claim practices.
- Integrate digital identification with baggage tags.

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