

ANALYSIS OF AVIATION SECURITY PERSONNEL IN ASSESSING PASSENGER UNDERSTANDING OF PROHIBITED ITEMS AT ADI SOEMARMO AIRPORT

Falah Hanun Qatrunnada¹, Anton Budiarto², Ridho Rinaldi³

^{1,2,3} Aviation Polytechnic of Surabaya, Jemur Andayani I/73 Wonocolo, Surabaya, East Java, Indonesia, 602366

*Corresponding author. Email: falahhanunn@gmail.com

ABSTRACT

Aviation security at airports is crucial to ensure air travel's safety and smooth operation. One of the key factors in maintaining security is passengers' understanding of prohibited items not allowed onboard. This study analyses the perceptions of Aviation Security (AVSEC) personnel at Adi Soemarmo Airport regarding passengers' understanding of prohibited items. The research method used is descriptive qualitative with structured interviews and observations at the Passenger Security Check Point (PSCP). The findings show that passengers' understanding is still low, with many unaware that items such as lighters, scissors, and liquids exceeding the prescribed limit are prohibited. This leads to delays in the screening process and long queues. As an innovation, digital pamphlets and QR codes have been introduced to enhance passenger awareness.

Keywords: Flight Safety, Prohibited Items, Passenger Understanding, Aviation Security (AVSEC), Passenger Security Check Point (PSCP), Digital Pamphlets.

1. INTRODUCTION

Aviation security is a critical component of air transportation, designed to safeguard passengers, crews, and assets from unlawful interference. International standards such as ICAO Annex 17 and national regulations, including Indonesia's Ministerial Decree KM 39 of 2024, emphasize restricting dangerous or prohibited items during air travel. Despite advanced screening technologies (e.g., X-ray, WTMD, ETD) and trained Aviation Security (AVSEC) personnel, incidents involving prohibited items continue to occur, largely due to limited passenger awareness and comprehension.

At Adi Soemarmo Airport, existing awareness campaigns—such as display boxes and exhibits of confiscated items—aim to educate passengers. However, the effectiveness of these efforts remains questionable. Many passengers unknowingly carry items such as scissors, lighters, and liquid containers exceeding 100 ml, disrupting the screening process and leading to delays and increased confiscations. Past studies (e.g., Candra & Albanna, 2024; Lestari & Frisnawati, 2022) highlight the gap between information dissemination and behavioral compliance, suggesting more salient and accessible communication strategies.

A critical yet underexplored perspective is that of frontline AVSEC officers. Positioned at the Passenger Security Check Point (PSCP), they observe passenger behavior directly and possess practical insights into passenger understanding. This research explores how AVSEC personnel assess passenger comprehension of prohibited items, what factors influence that understanding, and how these insights can inform improved communication strategies at Adi Soemarmo Airport.

Accordingly, this study aims to address the following research questions:

1. How do AVSEC personnel at Adi Soemarmo Airport assess passenger understanding of prohibited items during PSCP screening?
2. What factors do AVSEC officers perceive to influence this understanding?
3. What are the operational implications of limited passenger understanding at the PSCP?

The study adopts a descriptive qualitative approach, focusing on interviews and observations to produce empirical insights. Findings are expected to guide strategic interventions, including enhanced signage, digital media, and targeted outreach programs to improve compliance and reinforce aviation security standards.

2. METHODS

2.1 Research Design

The author carries out several stages in determining the research design of this Final Project. The following is the research design used.

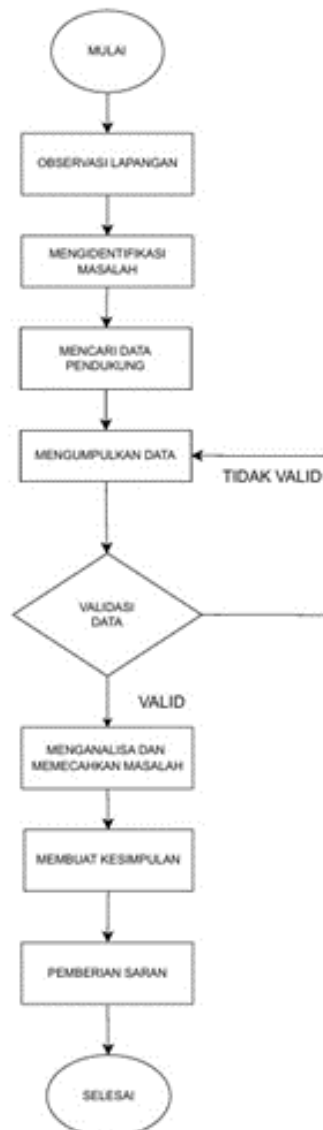


Figure 1. Research Design

2.2 Data Collection

2.2.1 Observation

Direct observation was conducted at the PSCP of Adi Soemarmo Airport to assess passenger behavior and manifestations of their understanding (or lack thereof) of prohibited items. The observation was carried out during the researcher's On the Job Training (OJT) period, spanning approximately three months. It was intended to provide an empirical description of passenger interactions with security procedures.

2.2.2 Interviews

Structured interviews were conducted with four AVSEC personnel with direct passenger screening experience at PSCP. The interview protocol included the following five questions.

Table 1. AVSEC Personnel Interview Questions List

No.	Questions	Indicator
1.	How do you assess passengers' understanding of prohibited items during security checks at Adi Soemarmo Airport?	Passenger understanding of prohibited items
2.	What factors cause passengers not to understand the rules regarding prohibited items at Adi Soemarmo Airport?	Factors causing a lack of understanding
3.	What are the frequent impacts of passengers' lack of understanding regarding prohibited items in the security checkpoint area/Passenger Security Check Point (PSCP) on the smooth running of the inspection process?	Impact of lack of understanding
4.	What steps or procedures do Aviation Security (AVSEC) officers take when they find passengers carrying prohibited items in the security screening area?	Procedures for handling violations
5.	In your opinion, what strategies or methods can be implemented to increase passengers' understanding of prohibited items to comply more with the applicable regulations?	Suggestions for improving understanding

A complete list of interview questions and related indicators is documented in the interview guide.

2.2.3 Documentation

Photographic documentation collected during the OJT period to complement and triangulate data from observations and interviews. The documentation includes images of displays of prohibited items confiscated by AVSEC officers, information visibility in the airport area, recordings, and videos of direct interviews with four AVSEC personnel in the context of direct screening, which supports evidence to interpret passenger awareness and the effectiveness of prohibited items socialization efforts at Adi Soemarmo Airport.

2.2.4 Instrument Validation

To ensure content validity, the observation sheet and interview guide were reviewed and validated by subject-matter and academic experts, including Mr. Heru Setiyawan (Airport Security Department Head), Mr. Hilman Fuadi (Supervisor of the OJT Aviation Security Unit), and the academic supervisors, Mr. Anton Budiarto and Mr. Ridho Rinaldi. Mr. Hilman Fuadi officially endorsed the observation instrument. The validation confirmed that the instruments were suitable for capturing the phenomena under study.

2.3 Data Analysis Method

Collected data from observation, interviews, and documentation were analyzed using a narrative descriptive qualitative approach. The analysis focused on extracting meanings, patterns, and contextual insights from the AVSEC personnel's perspectives, enabling the researcher to reconstruct the real-world dynamics of passenger understanding and its implications for security procedures. This method facilitated systematic interpretation while preserving the subjective richness of the data.

3. RESULT AND DISCUSSION

3.1 Result

3.1.1 Validation Results and Observations

The observation sheets and interviews validation results indicate that the instruments used in this study were valid for collecting data regarding passengers' understanding of prohibited items. The validation by supervisors and subject matter experts ensured that the indicators provided were relevant and aligned with the research objectives. Based on observations conducted at the Passenger Security Check Point (PSCP) at Adi Soemarmo Airport, many passengers were unaware that lighters, scissors, and liquids exceeding the allowed limit were categorized as prohibited items. Passengers frequently failed to comply with the regulations, resulting in delays in the screening process and long queues.

3.1.2 Interview Results with AVSEC Personnel

Interviews with four AVSEC personnel involved in the security screening process revealed that, although there have been improvements over the years, passengers' understanding of prohibited items is still insufficient. AVSEC personnel consistently identified that passengers often carried banned items, such as lighters, small scissors, and liquids over the permissible limit. The results also indicated that AVSEC personnel assessed passengers' awareness mainly through verbal communication and non-verbal cues, such as confusion or hesitation during the screening process. For instance, many passengers would ask clarifying questions or express surprise

when their items were confiscated, indicating a lack of preparation before their travels.

3.1.3 Factors Affecting Passenger Understanding

The key factors contributing to the limited understanding of prohibited items among passengers include insufficient exposure to relevant information before arrival at the airport and the inadequate visibility of details in terminal areas. AVSEC personnel mentioned that passengers often failed to notice the existing displays of prohibited items at security points, and digital signage was deemed ineffective due to poor placement or lack of interactivity. Moreover, cultural factors, such as passenger trust in the security process and a general lack of engagement with information resources, were also identified as underlying contributors. Passengers already familiar with the security process or who had travelled frequently tended to assume they understood the rules, leading to occasional violations. The lack of proactive information-seeking behaviour among passengers was also highlighted.

3.1.4 AVSEC Personnel's Suggested Improvements

AVSEC personnel emphasized the need for a more effective and engaging approach to communicating prohibited items regulations. They proposed key improvements: Firstly, enhanced digital signage should be placed in high-traffic areas like check-in counters and departure gates, providing real-time updates on prohibited items. Secondly, pre-travel information should be shared through mobile apps, website notifications, or boarding pass alerts, giving passengers a more precise understanding before arriving at the airport. Additionally, multimedia educational campaigns including both visual and textual content could help engage passengers and improve their awareness of the rules. Finally, ongoing training for AVSEC staff is crucial to ensure they can communicate more effectively with passengers, providing clear explanations and minimizing frustration during screenings.

3.2 Discussion

3.2.1 Challenges in Improving Passenger Understanding

The results of this study indicate that despite efforts to socialize prohibited items through visual media, such as digital pamphlets and signage at the airport, passengers' understanding remains low. This finding suggests that providing information through media alone is insufficient. More intensive socialization efforts are needed through various channels such as television, social media, and printed publications to reach diverse segments of the population, especially those who rarely travel.

3.2.2 The Role of AVSEC Personnel in Education

AVSEC personnel play an essential role in directly explaining prohibited items to passengers. However, this process still requires better and more structured communication standards. AVSEC officers often give informal explanations to passengers, which helps them understand the situation on the spot. However, this is insufficient to reduce the number of mistakes or violations during the screening process.

3.2.3 Recommendations for Improving Socialization

This study recommends several measures to improve passengers' understanding of prohibited items. These include enhancing media information in check-in areas and departure terminals through more effective and interactive digital signage. Additionally, pre-travel information should be distributed via mobile apps, websites, and boarding pass notifications, ensuring passengers are informed before they arrive at the airport. Furthermore, broader educational campaigns should be implemented, utilizing videos, posters, and digital content that is easily understandable by passengers from diverse backgrounds.

3.2.4 Implications for Aviation Security

The lack of passenger understanding about prohibited items significantly impacts aviation security. Delays in the screening process at the PSCP can lead to longer queues, slowing down operational efficiency and reducing safety standards. Therefore, improving communication effectiveness is crucial to ensuring passengers comply with security regulations, enhancing throughput, and streamlining the overall process.

4. CONCLUSION

This study investigated the perceptions of Aviation Security (AVSEC) personnel at Adi Soemarmo Airport regarding passengers' understanding of prohibited items, identified key influencing factors, and proposed targeted communication innovations. AVSEC personnel perceive that passengers' understanding of prohibited items remains relatively low, despite some improvement compared to earlier years; common misunderstandings involve lighters, small scissors, liquids exceeding permitted volumes, and sharp tools. The low level of understanding is driven by several factors, notably ineffective and insufficient information dissemination, limited publicity, cultural/educational background differences, and inadequate exposure to the regulations.

Inadequate passenger awareness contributes to inefficiencies in the security screening process, including longer queues and delays, which hinder smooth operational flow at the Passenger Security

Check Point. Proposed solutions namely, implementing digital pamphlets on digital signage and integrating QR codes to provide real-time, mobile-accessible information are appropriate strategies to enhance awareness and adapt to modern passenger behavior. These findings imply that improving the design and delivery of information about prohibited items can increase passenger compliance, reduce screening time, and support overall aviation security effectiveness.

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