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The Effect of Aviation Security Officers' Supervision Intensity and the Clarity of Prohibited Items Information on Passenger Compliance Related to Prohibited Items at Juanda International Airport

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ABSTRACT

This study aims to analyze the effect of Aviation Security officers' supervision intensity and the clarity of prohibited items information on passenger compliance related to prohibited items at Juanda International Airport. Although previous studies have examined airport security culture, passenger awareness, screening performance, and communication effectiveness separately, limited research has investigated the combined influence of Aviation Security officers' supervision intensity and the clarity of prohibited items information on passenger compliance, particularly in the context of Indonesian airports. This research addresses this gap by integrating both variables into a single analytical model. A quantitative approach employing Partial Least Squares–Structural Equation Modeling (PLS-SEM) was used to examine the relationships among the variables. Data were collected through questionnaires distributed to 100 departing passengers at Terminal 1 of Juanda International Airport using an accidental sampling technique. The results indicate that the supervision intensity of Aviation Security officers has a positive and significant effect on passenger compliance, with a path coefficient of 0.540 and a significance value below 0.05. The clarity of prohibited items information also has a positive and significant effect on passenger compliance, with a path coefficient of 0.608, indicating a more dominant influence. Simultaneously, both variables explain 66.8% of the variance in passenger compliance. The novelty of this study lies in the integration of supervision intensity and prohibited items information clarity within a single PLS-SEM model to explain passenger compliance in the Indonesian airport context, providing empirical evidence that effective supervision and clear information delivery should be implemented simultaneously to strengthen aviation security compliance.

These findings offer both theoretical contributions to aviation security research and practical recommendations for airport authorities to improve passenger compliance through integrated supervision and communication strategies.

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1. INTRODUCTION

Aviation security is one of the most important aspects of the air transportation industry because it directly relates to passenger safety, operational continuity, and public trust in aviation services (Eleimat & Őszi, 2025; Pinem dkk., 2024). The rapid growth of air transportation activities has increased the need for stronger airport security systems, especially in preventing prohibited items from entering aircraft cabins and sterile areas. Prohibited items include objects or materials that may threaten aviation safety, such as explosives, weapons, sharp objects, flammable materials, and other dangerous goods (Bartulović dkk., 2025; Wulandari dkk., 2025). Consequently, airports are required to implement effective security screening procedures and ensure that passengers comply with aviation security regulations.

In the aviation industry, security screening is not only intended to detect dangerous objects but also to prevent unlawful interference that may endanger passengers, crew members, and airport operations (Ogonowski dkk., 2020; Rahman dkk., 2025). International Civil Aviation Organization (ICAO) regulations through Annex 17 emphasize the importance of aviation security systems that integrate human resources, procedures, and technology. In Indonesia, aviation security implementation is regulated under Law No. 1 of 2009 concerning Aviation and Ministerial Regulation PM 127 of 2015 regarding the National Civil Aviation Security Program. These regulations require airports to conduct security control and security screening procedures to prevent prohibited items from being carried into aircraft (Alketbi & Sipos, 2024; Uchroński, 2020; Walter dkk., 2024).

As one of the busiest airports in Indonesia, Juanda International Airport has implemented various security measures to support aviation safety and operational efficiency (Darjono dkk., 2025; Dewa Made Frendika Septanaya dkk., 2025; Mukhtar dkk., 2023). These measures include X-ray screening systems, manual inspections conducted by Aviation Security (AVSEC) officers, and the use of digital information media to educate passengers regarding prohibited items regulations. Information related to prohibited items is delivered through digital signage, visual displays, announcements, and warning signs placed in several airport areas. The use of digital information systems is expected to improve passenger understanding because visual communication is considered more attractive and easier to understand compared to conventional information boards.

However, despite the implementation of modern security systems and information media, violations related to prohibited items are still frequently identified during the security screening process. Based on field observations and information obtained from Aviation Security officers at Juanda International Airport, passengers are still found carrying prohibited items such as scissors, nail clippers, screwdrivers, lighters, and other sharp objects into cabin baggage or sterile areas. These findings indicate that passenger compliance with prohibited items regulations remains suboptimal. In some

cases, passengers may intentionally ignore the regulations, while in other situations, violations occur because passengers do not fully understand the information provided by the airport.

Passenger compliance with aviation security regulations is influenced by various internal and external factors (Poberezhna, 2021). One important external factor is the supervision intensity of Aviation Security officers during the security screening process. Supervision intensity refers to the consistency, frequency, uncertainty, and effectiveness of security inspections conducted by AVSEC officers. Strong supervision may create a deterrence effect that encourages passengers to comply with airport regulations because passengers perceive a higher possibility of violations being detected (Stotz dkk., 2021). Effective supervision also increases the ability of airport security systems to identify prohibited items before passengers enter the aircraft cabin (Ahmed, 2024).

Another important factor influencing passenger compliance is the clarity of prohibited items information. Information clarity refers to how clearly and effectively airports communicate regulations regarding prohibited items to passengers. Clear information should use understandable language, appropriate symbols, attractive media, and strategic placement to ensure accessibility for passengers (Ayyub & Rohmah, 2024). Information that is easy to understand may help passengers identify which items are allowed and prohibited during flights. Conversely, unclear or ineffective communication may increase misunderstanding and contribute to security violations (Hwang & Seo, 2025).

Several previous studies have discussed aviation security from different perspectives. Adenigbo (2024) examined airport security culture and found that compliance is influenced by attitudes and security awareness. Latscha (2024) analyzed the performance of X-ray baggage screeners in different work environments, while Shin (2024) studied passenger awareness regarding items carried on board aircraft. Other studies also highlighted the importance of communication and information clarity in improving public understanding and compliance. Nevertheless, studies specifically examining the combined influence of Aviation Security officers' supervision intensity and the clarity of prohibited items information on passenger compliance are still limited, particularly in the context of Indonesian airports.

This study therefore aims to analyze the effect of Aviation Security officers' supervision intensity and the clarity of prohibited items information on passenger compliance related to prohibited items at Juanda International Airport. The study focuses on departing passengers at Terminal 1 (Domestic Terminal), where security screening activities are intensively conducted. The findings of this study are expected to contribute theoretically to aviation security research and practically to airport management in improving supervision effectiveness and information delivery strategies. In addition, the results may serve as an evaluation reference for Aviation Security officers in strengthening passenger compliance and supporting safer airport operations.

2. METHODS

This study employed a quantitative research approach to analyze the effect of Aviation Security officers' supervision intensity and the clarity of prohibited items information on passenger compliance related to prohibited items at Juanda International Airport. A quantitative approach was selected because the variables examined in this study could be measured numerically and analyzed statistically to identify causal relationships among variables. The study used a causal explanatory design to determine whether the independent variables significantly influenced the dependent variable.

The research was conducted at Terminal 1 (Domestic Terminal) of Juanda International Airport, Indonesia. This location was selected because Juanda International Airport is one of the busiest airports in Indonesia, with a high volume of domestic passenger departures and intensive aviation security screening activities. In addition, based on field observations and information obtained from Aviation

Security (AVSEC) officers, prohibited items are still frequently found during passenger screening procedures at this airport.

The population of this study consisted of all departing passengers at Terminal 1 of Juanda International Airport who had experienced security screening procedures and had been exposed to information regarding prohibited items. A total of 100 departing passengers were selected as respondents using a non-probability accidental sampling technique. Because the exact number of passengers meeting these criteria could not be determined during the data collection period, respondents were selected based on convenience and availability during the research process. Passengers encountered by the researcher who met the research criteria were invited to participate in the study. The sample size of 100 respondents was considered adequate for statistical analysis using Partial Least Squares–Structural Equation Modeling (PLS-SEM).

The study involved 100 departing passengers at Terminal 1 of Juanda International Airport. Of the total respondents, 69 (69%) were female and 31 (31%) were male, as presented in Table 1. All respondents had completed the airport security screening process and had been exposed to prohibited items information before participating in the survey.

Table 1. Respondent Characteristics Based on Gender

No.	Gender	Frequency	Percentage %
1.	Female	69	69,0%
2.	Male	31	31,0%
	Total	100	100%

Primary data were collected through a structured questionnaire distributed using Google Forms. The use of an online questionnaire was intended to facilitate data collection and improve efficiency during the research process. Before distributing the questionnaire, respondents were informed about the purpose of the study and asked for their willingness to participate voluntarily. The questionnaire consisted of closed-ended statements measured using a four-point Likert scale, namely strongly disagree, disagree, agree, and strongly agree. The four-point scale was selected to encourage respondents to provide clear opinions without neutral responses.

The research instrument was developed based on theories, previous studies, and aviation security regulations related to prohibited items. The independent variable of supervision intensity of Aviation Security officers (X1) consisted of four indicators: consistency of supervision, frequency of inspection, uncertainty of supervision, and effectiveness of supervision. These indicators reflected how consistently and effectively AVSEC officers conducted inspections during the security screening process.

The second independent variable, clarity of prohibited items information (X2), consisted of four indicators: clarity of information content, suitability of information media, accessibility of information, and passenger understanding of the information provided. These indicators were designed to measure how clearly prohibited items information was communicated to passengers through airport communication media such as digital signage, announcements, and visual displays.

Meanwhile, the dependent variable, passenger compliance related to prohibited items (Y), was measured using three indicators: compliance with regulations, compliance with security screening procedures, and awareness of the risks associated with violations. These indicators reflected the extent

to which passengers obeyed airport security regulations and understood the consequences of carrying prohibited items during flights.

The research procedure consisted of several stages. First, the researcher conducted a literature review to identify relevant theories, regulations, and previous studies related to aviation security, prohibited items, passenger compliance, supervision intensity, and information clarity. Second, the researcher developed the conceptual framework and research instrument based on the identified variables and indicators. Third, the questionnaire instrument was validated to ensure that the statements accurately represented the research variables. After the validation process, the questionnaire was distributed to respondents during the data collection period at Juanda International Airport.

The collected data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was selected because it is suitable for analyzing complex relationships among latent variables and can be applied to relatively small sample sizes. The analysis process consisted of two main stages: outer model evaluation and inner model evaluation. The outer model evaluation aimed to test the validity and reliability of the research instrument. Convergent validity was assessed using factor loading values and Average Variance Extracted (AVE), while reliability was evaluated through Composite Reliability and Cronbach's Alpha values.

The inner model evaluation was conducted to analyze the relationships among variables and test the proposed hypotheses. This stage included the analysis of path coefficients, R-square values, effect size (F-square), and bootstrapping procedures. Path coefficient analysis was used to determine the direction and strength of the relationships between variables, while bootstrapping was conducted to examine the statistical significance of each hypothesis. A significance level of 0.05 was used as the criterion for hypothesis acceptance. If the significance value was below 0.05, the hypothesis was considered statistically significant.

3. FINDINGS AND DISCUSSION

3.1 Measurement Model Evaluation (Outer Model)

The outer model evaluation was conducted to ensure that the research instrument met validity and reliability requirements before hypothesis testing was performed. This evaluation included convergent validity, discriminant validity, and reliability testing using SmartPLS software.

3.1.1 Convergent Validity

Convergent validity was evaluated using loading factor values and Average Variance Extracted (AVE). Indicators with loading factor values greater than 0.70 were considered valid in representing their constructs. Meanwhile, AVE values greater than 0.50 indicated that the constructs explained more than half of the variance of their indicators.

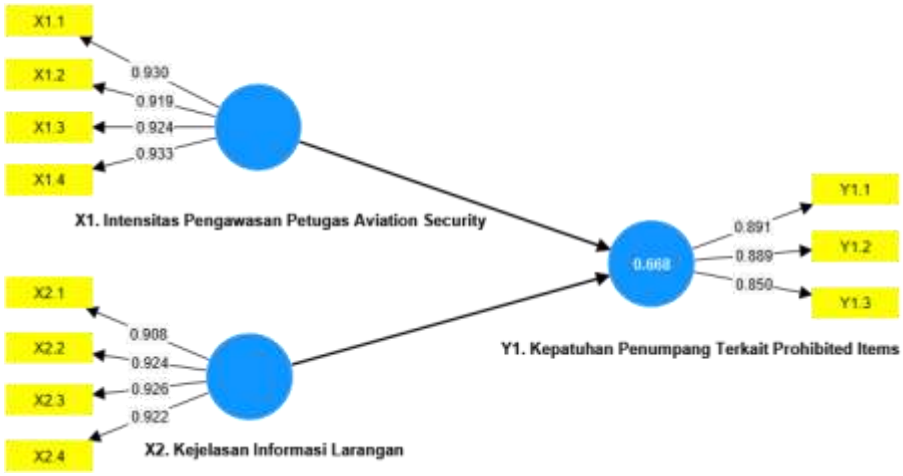

Figure 1. Outer Model Measurement Result

Figure 1 illustrates the outer model evaluation generated using SmartPLS software. The figure demonstrates the relationship between each indicator and its corresponding construct. All indicators achieved loading factor values above the minimum threshold of 0.70, indicating satisfactory convergent validity.

Table 1. Outer Loading Values

Relationship Between Variables and Indicators	Outer loadings
X1.1 ← X1. Intensity of Aviation Security Officer Supervision	0.930
X1.2 ← X1. Intensity of Aviation Security Officer Supervision	0.919
X1.3 ← X1. Intensity of Aviation Security Officer Supervision	0.924
X1.4 ← X1. Intensity of Aviation Security Officer Supervision	0.933
X2.1 ← X2. Clarity of Prohibited Items Information	0.908
X2.2 ← X2. Clarity of Prohibited Items Information	0.924
X2.3 ← X2. Clarity of Prohibited Items Information	0.926
X2.4 ← X2. Clarity of Prohibited Items Information	0.922
Y1.1 ← Y1. Passenger Compliance Related to Prohibited Items	0.891
Y1.2 ← Y1. Passenger Compliance Related to Prohibited Items	0.889
Y1.3 ← Y1. Passenger Compliance Related to Prohibited Items	0.850

Based on Table 1, all indicators achieved loading factor values greater than 0.70. Therefore, all indicators fulfilled the convergent validity requirements and were considered capable of representing their respective constructs effectively. Among the indicators measuring supervision intensity, indicator X1.4 achieved the highest loading factor value of 0.933. This finding indicates that the indicator had the strongest contribution in explaining the supervision intensity construct. Meanwhile, indicator X2.3 obtained the highest loading factor value within the prohibited items information clarity variable. This condition suggests that respondents strongly perceived the suitability of information media as an important aspect influencing information clarity. For the passenger compliance variable, indicator Y1 achieved the highest loading factor value. This finding demonstrates that compliance with screening procedures became the most dominant indicator in representing passenger compliance behavior. The

overall loading factor results indicate that all questionnaire indicators were statistically valid and appropriate for further structural model analysis.

Table 2. Average Variance Extracted (AVE) Values

Variable	*Average variance extracted* (AVE)
X1. Intensity of Aviation Security Officer Supervision	0.858
X2. Clarity of Prohibited Items Information	0.846
Y. Passenger Compliance Related to Prohibited Items	0.769

Based on Table 2, all variables achieved AVE values above 0.50. These findings indicate that all constructs fulfilled the convergent validity criteria because each construct was capable of explaining more than 50% of the variance of its indicators. The supervision intensity variable obtained the highest AVE value of 0.858, indicating that the indicators measuring supervision intensity demonstrated very strong explanatory power. Similarly, prohibited items information clarity and passenger compliance variables also achieved satisfactory AVE values. The findings confirm that the measurement model used in this study possessed adequate convergent validity and was suitable for further hypothesis testing.

3.1.2 Discriminant Validity

Discriminant validity was evaluated using the Fornell–Larcker criterion to determine whether each construct was empirically distinct from the other constructs in the measurement model. The assessment showed that the square root of the Average Variance Extracted (AVE) for each construct was greater than its correlations with the other constructs. Specifically, the square root of the AVE values for the Intensity of Aviation Security Officer Supervision (X1), Clarity of Prohibited Items Information (X2), and Passenger Compliance Related to Prohibited Items (Y) were 0.858, 0.846, and 0.769, respectively. These results indicate that each construct possessed adequate discriminant validity and measured a distinct concept. Therefore, the measurement model met the discriminant validity requirement and was considered appropriate for further structural model analysis.

3.1.3 Reliability Test

Reliability testing was conducted using Composite Reliability and Cronbach's Alpha values. Variables with values greater than 0.70 were considered reliable and demonstrated acceptable internal consistency.

Table 3. Reliability Test Results

Variable	*Cronbach's alpha*	*Composite reliability* (rho_a)	*Composite reliability* (rho_c)
X1. Intensity of Aviation Security Officer Supervision	0.945	0.949	0.960
X2. Clarity of Prohibited Items Information	0.939	0.940	0.957

Y. Passenger Compliance Related to Prohibited Items	0.850	0.858	0.909

The results presented in Table 3 indicate that all research variables achieved Cronbach's Alpha and Composite Reliability values above the minimum threshold value of 0.70. Therefore, all variables were considered reliable and demonstrated satisfactory internal consistency. The supervision intensity variable achieved the highest Composite Reliability value of 0.960, indicating that the indicators used to measure supervision intensity were highly consistent. Similarly, the prohibited items information clarity variable obtained a Composite Reliability value of 0.957, demonstrating that the indicators consistently measured the intended construct. The passenger compliance variable also fulfilled the reliability requirements with a Composite Reliability value of 0.909. These findings indicate that the questionnaire instrument used in this study was reliable and suitable for structural model evaluation and hypothesis testing.

3.2 Structural Model Evaluation (Inner Model)

After the outer model met the validity and reliability criteria, the next stage involved evaluating the structural model. This evaluation aimed to determine the relationships among variables and test the proposed hypotheses.

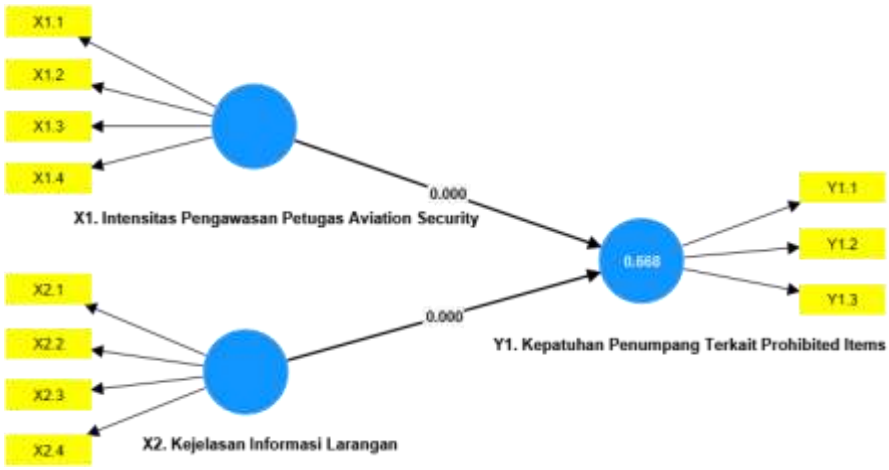

Figure 2. Structural Model Result

Figure 2 illustrates the structural model generated using SmartPLS software. The figure demonstrates the relationship between supervision intensity, prohibited items information clarity, and passenger compliance. The model also presents the path coefficient values and the explanatory power of the independent variables toward passenger compliance behavior.

3.2.1 Coefficient of Determination (R-square)

The coefficient of determination (R-square) was used to measure the explanatory power of the independent variables on the dependent variable.

Table 4. R-square Value

Variable	R-square	R-square adjusted
Y. Passenger Compliance Related to Prohibited Items	0.668	0.661

Based on Table 4, the R-square value of passenger compliance was 0.668. This finding indicates that supervision intensity and prohibited items information clarity simultaneously explained 66.8% of the variance in passenger compliance behavior, while the remaining 33.2% was influenced by other variables not included in this study, such as passenger awareness, aviation security culture, perceived risk, service quality, and passenger attitudes toward airport regulations.

From a practical perspective, this finding suggests that strengthening Aviation Security (AVSEC) supervision and improving the clarity of prohibited items information can substantially enhance passenger compliance during airport security screening. Therefore, airport management should not only maintain consistent security inspections but also improve communication through clear visual signage, digital information displays, and public announcements to reduce prohibited items violations and support safer airport operations.

3.2.2 Effect Size (F-square)

In addition to the R-square evaluation, this study also analyzed the effect size (F-square) to determine the contribution of each independent variable toward the dependent variable. The F-square value indicates the magnitude of the effect produced by exogenous variables on endogenous variables within the structural model.

The criteria for evaluating F-square values are as follows:

1. 0.02 = small effect
2. 0.15 = medium effect
3. 0.35 = large effect

Table 5. F-square Results

Relationship Between Variables	f-square
X1. Aviation Security Officers Supervision Intensity → Y. Passenger Compliance Related to Prohibited Items	0.877
X2. Prohibited Items Information Clarity → Y. Passenger Compliance Related to Prohibited Items	1.112

Based on Table 5, both independent variables demonstrated strong effect sizes on passenger compliance related to prohibited items. The F-square value of Aviation Security Officers' Supervision Intensity was 0.877, indicating that supervision intensity had a substantial contribution to improving passenger compliance during aviation security screening procedures.

Meanwhile, the Prohibited Items Information Clarity variable achieved an F-square value of 1.112, indicating a very strong effect on passenger compliance. Compared to supervision intensity,

information clarity showed a greater contribution in influencing passenger behavior related to prohibited items regulations. These findings indicate that clear and accessible prohibited items information plays a highly important role in improving passenger understanding and compliance at Juanda International Airport. Overall, both independent variables demonstrated large effect sizes and significantly contributed to the structural model developed in this study.

3.3 Model Fit Evaluation

Model fit evaluation was conducted to determine whether the proposed research model was appropriate for structural analysis using SmartPLS. The model fit assessment in this study used the Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI) values.

Table 6. Model Fit Results

	***Saturated* model**	***Estimated* model**
SRMR	0.049	0.049
NFI	0.911	0.911

Based on Table 6, the SRMR value of 0.061 indicates that the research model achieved a good level of fit because the value was below the recommended threshold value of 0.10. Meanwhile, the NFI value of 0.911 indicates that the model demonstrated acceptable compatibility with the observed data. Overall, the findings indicate that the proposed research model was appropriate for further structural model analysis and hypothesis testing

3.4 Hypothesis Testing

Hypothesis testing was conducted using bootstrapping analysis in SmartPLS. The significance level used in this study was 0.05.

Table 7. Hypothesis Testing Results

Variable	***Original sample* (O)**	***Sample mean* (M)**	***Standard deviation* (STDEV)**	***T statistics* (|O/STDEV|)**	**P *values***
X1. Intensity of Aviation Security Officer Supervision -> Y. Passenger Compliance Related to Prohibited Items	0.540	0.540	0.055	9.814	0.000
X2. Clarity of Prohibited Items Information -> Y. Passenger Compliance Related to Prohibited Items	0.608	0.610	0.048	12.607	0.000

Based on Table 7, both independent variables significantly influenced passenger compliance related to prohibited items.

The supervision intensity variable achieved a path coefficient value of 0.540 with a T-statistics value of 9.814 and a P-value of 0.000. These findings indicate that supervision intensity positively and

significantly affected passenger compliance. Therefore, the first hypothesis proposed in this study was accepted. Meanwhile, prohibited items information clarity obtained a path coefficient value of 0.608 with a T-statistics value of 12.607 and a P-value of 0.000. This finding demonstrates that information clarity positively and significantly influenced passenger compliance. Therefore, the second hypothesis proposed in this study was also accepted.

Among the two independent variables, prohibited items information clarity demonstrated the strongest influence on passenger compliance behavior because it achieved the highest path coefficient value. This condition indicates that passenger understanding regarding prohibited items regulations plays an important role in encouraging compliance during airport security screening procedures.

3.5 Discussion

3.5.1 The Effect of Aviation Security Officers' Supervision Intensity on Passenger Compliance

The findings demonstrate that the supervision intensity of Aviation Security officers positively and significantly affects passenger compliance related to prohibited items. These findings indicate that more intensive supervision encourages passengers to comply with aviation security regulations during the screening process.

This relationship can be explained by the fact that consistent and visible security supervision increases passengers' awareness that prohibited items are likely to be detected during inspections. As a result, passengers tend to pay greater attention to airport security regulations and are more careful in checking their belongings before entering the security screening area. Frequent inspections and the presence of AVSEC officers also create a preventive effect that discourages passengers from carrying prohibited items, whether intentionally or unintentionally.

This finding is consistent with deterrence theory, which suggests that individuals are more likely to comply with regulations when they perceive a high probability of detection and enforcement. In the airport environment, intensive supervision strengthens passengers' perceptions that security procedures are implemented consistently, thereby encouraging compliance with prohibited items regulations.

These findings are also consistent with previous studies by Kim et al. (2020) and Latscha et al. (2024), which emphasize that effective airport security screening contributes to safer airport operations and improves passenger compliance with aviation security procedures.

3.5.2 The Effect of Prohibited Items Information Clarity on Passenger Compliance

The findings also indicate that the clarity of prohibited items information positively and significantly affects passenger compliance. The path coefficient value of 0.608 demonstrates that information clarity had a stronger influence on passenger compliance compared to supervision intensity. These results support the second hypothesis proposed in this study.

This finding suggests that passenger understanding plays a crucial role in determining compliance behavior during airport security screening procedures. Information that is delivered clearly and accessibly helps passengers identify prohibited items before entering screening areas.

The indicators used to measure information clarity included:

1. Clarity of information content
2. Suitability of information media
3. Accessibility of information
4. Passenger understanding

Respondents generally perceived that digital signage, visual displays, and announcements available at Juanda International Airport were useful in helping them understand prohibited items regulations. Nevertheless, some respondents stated that certain prohibited items categories were still confusing because several commonly used personal objects were restricted in aircraft cabins.

The findings support communication theory in public services, which explains that clear and understandable information improves public awareness and compliance. In aviation security contexts, communication effectiveness becomes essential because many prohibited items violations occur unintentionally due to passengers' lack of knowledge.

These results are also consistent with previous studies conducted by Shin (2024), which reported that passengers often have insufficient awareness regarding items carried on board aircraft. Similarly, studies on public communication effectiveness emphasized that understandable information and suitable communication media significantly influence compliance behavior.

3.5.3 Comparison with Previous Studies

The findings of this study are generally consistent with previous aviation security studies. Earlier studies mainly focused on security culture, passenger awareness, and screening performance. However, this study specifically examined the combined influence of supervision intensity and information clarity on passenger compliance in the context of Indonesian airports.

Compared to previous studies, the current research provides several new contributions:

1. It integrates supervision and communication variables within one research model
2. It focuses specifically on prohibited items compliance
3. It examines passenger behavior in the context of Indonesian domestic airport operations

These findings confirm that effective aviation security management requires not only strict inspections but also clear and accessible communication systems. The combination of intensive supervision and understandable information may create a stronger compliance culture among passengers.

3.5.4 Practical Implications and Future Research

The findings of this study provide several practical implications for airport authorities and Aviation Security personnel.

First, airport management should strengthen supervision consistency by conducting regular and random inspections. Strong supervision may improve passenger awareness regarding the risks and consequences of carrying prohibited items.

Second, airports should improve prohibited items information systems through more effective communication strategies. This can be achieved by providing more attractive digital signage, multilingual information, clear visual symbols and warning displays, and increasing audio announcements in passenger screening areas. These communication improvements can help passengers understand prohibited items regulations before entering the security screening checkpoint, thereby reducing violations caused by misunderstanding or lack of information. Furthermore, clear and accessible information may shorten the screening process, improve operational efficiency, and support a safer and more secure airport environment.

Third, Aviation Security officers should provide direct explanations to passengers whenever prohibited items are identified during inspections. Educational approaches may improve passenger understanding and reduce repeated violations.

Future studies are recommended to explore additional variables influencing passenger compliance, such as passenger awareness, aviation security culture, service quality, and perceived risk. Further research may also involve larger sample sizes and comparisons between domestic and international airport terminals to provide broader insights into aviation security compliance behavior.

4. CONCLUSION

This study aimed to analyze the effect of Aviation Security officers' supervision intensity and the clarity of prohibited items information on passenger compliance related to prohibited items at Juanda International Airport. Based on the results of the statistical analysis using Partial Least Squares–Structural Equation Modeling (PLS-SEM), both independent variables were found to have positive and significant effects on passenger compliance. Therefore, the objectives of this study were successfully achieved.

The findings indicate that the supervision intensity of Aviation Security officers contributes significantly to improving passenger compliance during airport security screening procedures. Consistent inspections, frequent screening activities, and effective supervision systems create a deterrence effect that encourages passengers to follow aviation security regulations. These results confirm that strong supervision remains an important component of airport security management in preventing prohibited items violations.

In addition, the clarity of prohibited items information was identified as the variable with the strongest influence on passenger compliance. This finding suggests that passenger understanding is highly dependent on how information is communicated by airport authorities. Information delivered through clear language, visual displays, digital signage, and accessible communication media can improve passengers' awareness regarding prohibited items regulations and reduce violations caused by misunderstanding or lack of information.

The study also demonstrates that effective aviation security management requires not only strict supervision but also effective communication strategies. Passenger compliance cannot be achieved solely through inspection procedures; rather, it also depends on passengers' ability to understand and interpret the information provided by the airport. Therefore, the integration of supervision effectiveness and information clarity is essential in supporting safer and more efficient airport operations.

From a practical perspective, the findings provide several implications for airport management and Aviation Security personnel. Airports are encouraged to maintain consistent security screening procedures while simultaneously improving prohibited items communication systems through more attractive and understandable information media. The use of multilingual digital signage, visual symbols, periodic announcements, and educational approaches by Aviation Security officers may help improve passenger awareness and compliance levels.

Although this study provides important findings regarding passenger compliance in aviation security contexts, several limitations should be acknowledged. The study was conducted only at Terminal 1 (Domestic Terminal) of Juanda International Airport and involved a relatively limited number of respondents. In addition, this study focused only on two independent variables, while other factors such as passenger awareness, perceived risk, service quality, and aviation security culture may also influence compliance behavior.

Future research is recommended to explore additional variables related to passenger compliance and aviation security behavior. Further studies may involve larger sample sizes, comparisons between domestic and international terminals, or comparative analyses between different airports in Indonesia. Researchers may also investigate the effectiveness of specific communication strategies and digital technologies in improving passenger understanding regarding prohibited items regulations. Such studies are expected to contribute to the development of more comprehensive aviation security management systems in the future.

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