THE IMPACT OF IMPLEMENTATION THE HOLD BAGGAGE SECURITY CHECKPOINT (HBSCP) SYSTEM ON THE EFFECTIVENESS OF PASSENGER SERVICES AT RADIN INTEN II AIRPORT, LAMPUNG

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ABSTRACT

In the aviation industry, service improvements continue to evolve in response to increasingly complex security challenges. Therefore, it is essential to innovate service methods that are not only more effective but also comply with the latest security standards to protect airport facilities and ensure aviation safety. One of the updated ground-side security facilities is the Security Check Point (SCP), now implemented based on Ministerial Decree (KM) No. 39 of 2024, a revision of KM No. 211 of 2020 concerning the National Aviation Security Program. This update aims to enhance the quality of service, particularly in the baggage screening process for passengers at Radin Inten II Airport, Lampung. This study employs a correlational method with a quantitative approach. Data were collected through questionnaires distributed to passengers at Radin Inten II Airport. The collected data were then analyzed using IBM SPSS Statistics software version 26. The results show a strong correlation between the implementation of the Hold Baggage Security Check Point (HBSCP) system (variable X) and the effectiveness of passenger services (variable Y), as indicated by a correlation coefficient of 0.781. This finding demonstrates that the HBSCP system, implemented in accordance with KM No. 39 of 2024, significantly contributes to improving the effectiveness of passenger service delivery.

Keywords: Aviation Security, Baggage Screening, Hold Baggage Security Check Point, Service effectiveness, Passenger

1. INTRODUCTION

Radin Inten II Airport in Lampung, as one of the main air gateways in Lampung Province, continues to experience significant growth in terms of infrastructure, passenger numbers, and flight routes [1]. With the expansion of the terminal capacity to 9,650 m², the need for an effective, fast, and secure service system becomes increasingly crucial [2].

However, the previous security inspection system was considered inefficient and ineffective, especially in the process of passenger and baggage screening. The previous system required two inspections—before and after check-in—which resulted in long queues at inspection points, increased workload for AVSEC personnel, potential tensions between officers and passengers, and suboptimal service time.

These issues posed serious challenges for airport management to maintain safety standards without compromising passenger comfort and service efficiency. In response to these problems, Radin Inten II Airport adopted the Hold Baggage Security Check Point (HBSCP) system, a method of checked baggage inspection conducted automatically in a designated area using advanced equipment such as X-Ray machines, Explosive Detection Systems (EDS), CCTV, and direct supervision by AVSEC officers.

HBSCP is part of the digital transformation and modernization of airport security systems aimed at increasing the efficiency and effectiveness of baggage

screening, reducing queues at passenger checkpoints, and ensuring that all security procedures comply with national and international regulations, such as the Ministry of Transportation Regulation No. 9 of 2024 on baggage handling procedures, and the National Aviation Security Program (PKPN) Ministerial Decree No. 39 of 2024.

In the context of public services in the air transportation sector, service effectiveness depends heavily on three key factors: speed, accuracy, and safety. Effective service is defined as service that achieves its objectives by optimizing resources and fulfilling users' needs.

This aligns with the service quality theory proposed by Parasuraman et al. (1988), known as the SERVQUAL model [3]. This model explains five main dimensions for assessing service quality, namely Tangibles, Reliability, Responsiveness, Assurance, and Empathy [4].

In airport operations, checkpoints such as the Security Check Point (SCP) and Passenger Security Check Point (PSCP) are essential elements in ensuring the safety of all service users. The screening process is carried out strictly using internationally standardized equipment and must comply with the National Aviation Security Program (PKPN).

As part of developing a more modern security system, Radin Inten II Airport has implemented the Hold Baggage Security Check Point (HBSCP) system. This system separates the inspection processes for passengers and checked baggage, creating a more efficient service flow, reducing queues, and lowering the workload of AVSEC personnel. HBSCP also allows for thorough but more organized inspections, as baggage is screened through X-ray machines and EDS technology before being loaded onto the aircraft.

Based on the background described above, it can be concluded that the main issue to be addressed in this study is the extent to which the implementation of the Hold Baggage Security Check Point (HBSCP) system affects the quality of passenger services at Radin Inten II Airport in Lampung.

To answer this problem in a focused and systematic manner, the research is framed into two main questions:

1. Does the implementation of the Hold Baggage Security Check Point (HBSCP) system influence the effectiveness of passenger services at Radin Inten II Airport in Lampung?

2. To what extent is the influence of the HBSCP system significant on passenger services at Radin Inten II Airport in Lampung?

These two research questions serve as the foundation for collecting data, analyzing the impact of the HBSCP system, and evaluating its effectiveness on the services provided to airport users. With this approach, the research is expected to make a meaningful contribution to improving airport service and aviation security systems in Indonesia, particularly at regional airports like Radin Inten II.

The objective of this study is to determine the extent to which the implementation of the Hold Baggage Security Check Point (HBSCP) system affects the effectiveness of passenger services at Radin Inten II Airport in Lampung. The study also aims to measure the significance of the system's influence on the quality of service received by passengers. This objective serves as the basis for the researcher in designing research instruments, collecting data, and conducting focused analyses to obtain accurate and relevant results.

Furthermore, to guide the research into a statistically measurable and objective testing process, the researcher formulates a hypothesis that serves as a reference in data analysis. The alternative hypothesis (H1) proposes that there is a relationship or correlation between the implementation of the HBSCP system and the effectiveness of passenger services at Radin Inten II Airport in Lampung. Meanwhile, the null hypothesis (H0) states that there is no correlation between the two. The hypothesis testing will be the basis for drawing conclusions on whether the HBSCP system implementation truly has a real impact on improving passenger services at the airport.

The results of this testing are expected to contribute significantly to the development of security and public service systems in the aviation sector, especially in the context of regional airport operations

2. METHOD

2.1. Research Method

This study employs a quantitative research method, which is a systematic scientific approach used to test hypotheses and analyze relationships between variables using numerical and statistical data [5]. The quantitative method was selected because it enables objective measurement of the effects of a specific variable—in this case, the implementation of the Hold Baggage Security Check Point (HBSCP) system—on another variable, namely the effectiveness of passenger services.

2.2. Research Approach

The quantitative approach aims to identify the extent of the influence between the independent and dependent

variables through data collection in the form of numbers, which are later analyzed statistically [6]. This approach is relevant for this study as it seeks to determine the impact of the HBSCP system on service effectiveness, providing measurable and replicable results that can be generalized within the research setting.

2.3 Research Variables

The research involves two key variables. The independent variable (X) is the implementation of the Hold Baggage Security Check Point (HBSCP) system, which refers to the application of automated baggage screening procedures in the departure terminal area. This variable is measured through the following indicators: operational procedures, speed of the inspection process, use of technology, and compliance with aviation security standards. The dependent variable (Y) is the effectiveness of passenger services [7], which reflects the degree to which airport services operate optimally and meet passenger expectations. This variable is assessed using four key indicators: timeliness, comfort, passenger satisfaction, and smoothness of the departure flow.

Tabel 2. 1 relation variable x and variable y
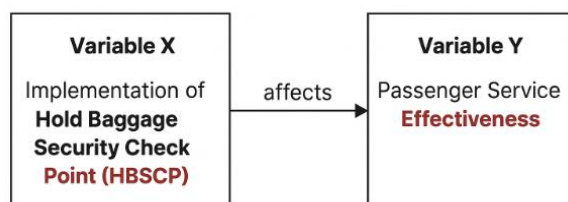
2.4 Research Subjects

The population in this study consists of all passengers at Radin Inten II Airport in Lampung. Passengers were chosen because they directly experience the screening process through the Hold Baggage Security Check Point (HBSCP) system and feel its impact on the quality of service. To represent this population, a portion of the passengers was selected as a sample so that the research results could reflect the overall situation. The sample was chosen based on the ease of data collection and its relevance to the study.

2.5 Data Collection Techniques and Research Instruments

Data were collected through questionnaire. The questionnaire used is a choice type, where respondents are given alternative answers to choose one of the five answers provided. The questionnaire consists of closed-ended items using a Likert scale from:

1 = Very Disagree (VDA)

2 = Disagree (DA)

3 = Netral (N)

4 = Agree (A)

5 = Very Agree (VA)

Instrument validity was ensured through expert judgment. All scores obtained by each expert were calculated using Lameshow formula as follows:

$$n = \frac{Z^2 \times p \times (1 - p)}{d^2}$$

$$n = \frac{(1,96)^2 \times 0,5 \times (1 - 0,5)}{(0,1)^2}$$

$$n = \frac{3,8416 \times 0,25}{0,01}$$

$$n = 96,04$$

After that, researcher use a preliminary trial for empirical validity to 96 passenger and will analyse it with IBM SPSS Statistic 26.

2.6 Data Analysis Techniques

After the questionnaire data was successfully obtained, the author analysed it using descriptive statistical tests to obtain opinion trends in accordance with the Likert scale using the following formula:

- Respondents who answered very agree (5) = 5 x n = n

- Respondents who answered agree (4) = 4 x n = n

- Respondents who answered netral (3) = 3 x n = n

- Respondents who answered disagree (2) = 2 x n = n

- Respondents who answered very disagree (1) = 1 x n = n

2.6.1 Validity Test

To determine the validity of the questionnaire items, the Pearson Product-Moment Correlation was used. An item is considered valid if the significance value (sig.) < 0.05 and the calculated correlation coefficient (r count) exceeds the critical value of r table at a 95% confidence level. In this study, the r table value for n = 100 and α = 0.05 was 0.195. All questionnaire items for both the independent and dependent variables achieved significance values less than 0.05 and correlation coefficients greater than 0.195, indicating that each item

was statistically valid. According to, validity testing using Pearson correlation is appropriate for measuring item consistency with its respective indicator.

2.6.2 Reliability Test

Reliability testing was conducted using Cronbach's Alpha. A variable is considered reliable if the Cronbach's Alpha coefficient is ≥ 0.7, which indicates good internal consistency among the items in the instrument. The test results in this study showed that all variables, including both Passenger Satisfaction and Service Quality, had alpha values above 0.7. Therefore, the questionnaire was deemed reliable and consistent for further analysis. As suggested by, a high Cronbach's Alpha coefficient reflects the stability and coherence of items in measuring a specific construct.

2.6.3 Correlate Coefficient

The correlation coefficient is a commonly used statistical analysis tool in quantitative research to determine the relationship between two variables. According to Sugiyono (2012), the correlation coefficient is a numerical value that indicates the degree (strength) and direction of the relationship between two variables. In other words, the correlation coefficient not only shows whether two variables are related, but also indicates whether the relationship is positive or negative. The closer the value is to 1, the stronger the correlation between the two instruments.

2.7 Research Location and Time

The study was conducted at Radin Inten II Airport, Lampung, under the management of PT Angkasa Pura II. Data collection took place start when researchers conduct On The Job Training (OJT) activities between January 6 and February 28, 2025

3. RESULT AND DISCUSSION

3.1. Questionnaire Results

Questionnaire results showed high levels of fatigue and declining motivation among respondents. For the fatigue variable, the majority of respondents selected "Agree" or "Strongly Agree" on items related to physical exhaustion, difficulty concentrating, and lack of enthusiasm. For work motivation, many responses indicated reduced energy, lowered initiative, and limited interest in work performance.

Tabel 3. 1 Questionnaire result Variable X

Instrumen X	Data					Total Score
	VA	A	N	DA	VDA	
	5	4	3	2	1	
X1	42	49	5	0	0	421
X2	56	31	9	0	0	431
X3	37	50	9	0	0	412
X4	37	53	6	0	0	415
X5	45	42	9	0	0	420

Tabel 3. 2 Questionnaire result Variable Y

Instrumen Y	Data					Total Score
	VA	A	N	DA	VDA	
	5	4	3	2	1	
Y1	41	49	6	0	0	419
Y2	38	50	8	0	0	414
Y3	33	59	4	0	0	413
Y4	41	51	4	0	0	421
Y5	42	47	7	0	0	419
Y6	37	50	9	0	0	412
Y7	36	56	4	0	0	416
Y8	42	45	9	0	0	417
Y9	41	51	4	0	0	421

Based on the table 3.2 it shows that the majority of personnel chose the answers 'agree' and 'Very agree' indicating that excessive working hours do indeed have an impact on fatigue and decreased work motivation.

3.2. Data Analysis

3.2.1 Validity Test Result

In the validity test, the lower limit value of the r-table with 96 samples was 0.2006. The results of the test showed that the r-count values for the instruments of both variable X and variable Y exceeded the r-table value, indicating that they are valid and can be used in this research.

Table 3. 3 Empirical Validity Variable X

Instrumen	Score	r_{table}
X1	0,599	0,2006
X2	0,767	0,2006
X3	0,710	0,2006
X4	0,598	0,2006
X5	0,755	0,2006

Based on the validity test results for variable X have met the requirements, the statement questionnaire for variable X has been declared valid.

Table 3. 4 Empirical Validity Variable Y

Instrumen	Score	r_{table}
Y1	0,653	0,2006
Y2	0,639	0,2006
Y3	0,528	0,2006
Y4	0,666	0,2006
Y5	0,620	0,2006
Y6	0,630	0,2006
Y7	0,476	0,2006
Y8	0,613	0,2006
Y9	0,666	0,2006

Based on the validity test results for variable Y have met the requirements, the statement questionnaire for variable Y has been declared valid.

3.2.2 Reliability Test Result

In addition to validity testing, the researchers also presented the results of reliability testing for each variable to ensure that the questionnaire was reliable and could be used for future research.

Table 3. 5 Results of the reliability test of variable X and Y

Instrument	Score	Cronbach's Alpha
X	0,723	> 0,6
Y	0,790	> 0,6

Based on the reliability test results for variable X and variable Y have met the requirements, the statement questionnaire for variable X and variable Y has been declared reliable.

3.2.3 Correlate Coefficient Test

This hypothesis test uses correlation coefficient analysis, which is applied to measure the relationship between variable X and variable Y. In hypothesis testing, the objective is to determine whether the proposed hypothesis can be accepted or rejected. The basis for decision-making in hypothesis testing can be determined using the probability value (p-value): if the p-value is greater than 0.05 (> 0.05), then H_0 is accepted; otherwise, if the p-value is less than 0.05 (< 0.05), then H_0 is rejected. The following presents the results of the correlation coefficient test:

Table 3. 6 Result correlate coefficient test of variable X and Y

Correlations

		PENERAPAN SISTEM PENGECEKAN HBSCP	EFEKTIVITAS PELAYANAN PENUMPANG
PENERAPAN SISTEM PENGECEKAN HBSCP	Pearson Correlation	1	,781**
	Sig. (2-tailed)		,000
	N	96	96
EFEKTIVITAS PELAYANAN PENUMPANG	Pearson Correlation	,781**	1
	Sig. (2-tailed)	,000	
	N	96	96

**. Correlation is significant at the 0.01 level (2-tailed).

The table shows that the correlation coefficient between the implementation of the Hold Baggage Security Check Point (HBSCP) system (X) and passenger service effectiveness (Y) is 0.781, with a significance value of 0.00. Since this value is below 0.05, it indicates a strong relationship between the two variables. Based on the SPSS results, it can be concluded that the implementation of the HBSCP system is significantly

related to the effectiveness of passenger services at Radin Inten II Airport, Lampung

3.3 Hypothesis test results

The researcher developed a questionnaire consisting of 14 statements, which was distributed to 96 passenger respondents. The data collected from the questionnaire were processed using the Likert scale method and analyzed with IBM SPSS Statistics version 26. These results were used to measure the influence of the implementation of the Hold Baggage Security Check Point (HBSCP) system on the effectiveness of passenger services.

Based on the collected and presented data, the hypothesis test showed a correlation coefficient of 0.781 with a significance value of 0.00, indicating a strong level of association between the implementation of the HBSCP system and the effectiveness of passenger services. From this test, it can be concluded that the implementation of the HBSCP system has a strong influence on the effectiveness of passenger services at Radin Inten II Airport, Lampung.

4. CONCLUSION AND RECOMMENDATION

4.1 Conclusion

Based on the results of discussion and questionnaire surveys, there is a significant influence of the implementation of the Hold Baggage Security Check Point (HBSCP) system on the effectiveness of passenger services. This conclusion is based on the correlation test between variable X and Y, which shows a correlation coefficient value of 0.781, indicating a very strong relationship between the HBSCP system and passenger service effectiveness. Furthermore, the implementation of the HBSCP system at Radin Inten II Airport, Lampung, is in accordance with KM 39 of 2024 concerning the National Aviation Security Program. Based on the questionnaire results, it can be concluded that the implementation of the HBSCP system helps improve time efficiency during the baggage screening process. This conclusion is also supported by the correlation significance value of 0.00, which meets the requirement of $\alpha \leq 0.05$ to accept the alternative hypothesis (H_1).

4.2 Recommendation

Based on the research findings and conclusions, the researcher offers several suggestions for Radin Inten II Airport, Lampung. Given the strong influence of the implementation of the Hold Baggage Security Check Point (HBSCP) system on the effectiveness of passenger services, it is recommended that the HBSCP procedures be consistently and thoroughly implemented. Additionally, the Aviation Security unit is advised to optimize the screening process for passengers and their baggage in the HBSCP area to further enhance aviation safety and security.

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