

The Improvement of Service Quality for Passengers through the Development of Airport Facilities

Ristiani, Esti Nur Wakhidah, Dani Triwayudi, Amar Sadli

Sekolah Tinggi Teknologi Kedirgantaraan, Bantul, Indonesia

*Corresponding author email: ristiani@sttkd.ac.id

ABSTRACT. One dimension to see aspects or characteristics which describe the quality of an airport is the physical evidence of its facilities. The passenger terminal development becomes the analysis concept which later can be an evaluation whether this expansion truly shows the efforts of airport management to have a commitment in prioritizing quality service to passengers. Analysis in this research is measuring the extent of conducted expansion which becomes parts of improving quality service. This research includes case study by gathering acquired data from library study and documentation which was received from airport manager in 2019. The minimum standard for departure room, arrival room and security check points at domestic passenger terminal is determined based on the needs of space, which refers to SNI 03-7046-2004 about Indonesia National Standard of Airport's Passenger Terminal. Finally, the results are compared and analyzed by existing condition and situation before the airport developed. The results show that departure room, arrival room and security check point facilities at passenger terminal Adi Soemarmo Boyolali International Airport have fulfilled the airport facility operation technical requirements as recorded on SNI 03-7046-2004. Compared to the existing condition, the results of these numbers increase because the airport has recently been developed with a purpose to facilitate the possibility of an increase in the number of future passengers. Although the condition of facilities show that the airport still meets the service standards, development is still being done based on the increased number of passengers. As a result, the development also indirectly increases the quality of service to passengers. Some things can be suggested from this study such as an evaluation during holiday and high or peak season. Pandemic can also be one of the causes of differences from developed facility occupancy

Keywords: arrival, departure, facilities, security check point, service.

1. INTRODUCTION

Some keys which show that a service company provides a high quality service to customers are to ensure that the provided services were appropriate, or they meet a standard quality and are evaluated periodically to improve the sustainable quality. The quality service is important because it will influence the customer's perception when they use it. One of the services required by community is services which associated with transportation because it is regarded to transporting people or objects from one area to another, either for personal or for professional interests. Today, the fastest transportation type is by air. The airport service organizers, as a corporation, have service standards to passengers as their commitment to provide quality service.

Aspects or characteristics describing the quality of an airport can be seen from five dimensions. Those are staff's civility and composure in giving services, staff's capability in understanding passengers' condition, staff's consistent working quality, staff's quick and correct response, and physical evidence of airport facilities. Research conducted at Adi Soemarmo Boyolali International Airport discusses airport facilities as evidence of quality service which can be perceived directly by using passengers' senses.

The particular purpose of this study is to analyze the development of departure room, arrival room and security check point facilities. The passenger terminal development becomes the fundamental concept in analyzing it. In the future, it can be evaluated whether this expansion shows parts of airport management in keeping their commitment to prioritize their quality services to passengers.

In general, the development is supported by insufficient capacity or incapability to provide the best services for passengers because there are increases in numbers of passengers and estimated trend. Analysis in this research measures the extent of conducted expansion which becomes parts of improving quality service.

Some preceding researches are references for comparing or supporting this research. Research done by [9] was similar but conducted in different location. [9] recommended the airport management to add wider departure hall and more passenger seats in waiting rooms. [9] also predicted the increasing number of passengers, so that the airport management could anticipate and prepare their best strategy.

Another research was done by [5] in Bali. The findings showed that development for the airport was urgently needed because the available infrastructure could not provide services and accommodate activities

related to service process to passengers. Furthermore, the massiveness of domestic departure terminal will occur in 2028.

This research uses similar analysis to preceding researches, but it is limited to the departure room, arrival room and security check point facilities at domestic passenger terminal. Capacity in Adi Soemarmo International Airport was reviewed by [7], yet it specifically discussed the facilities related with immigration. Therefore, this research can be expected as complementary information for other researches who discuss facilities at Adi Soemarmo International Airport.

2. RESEARCH METHOD

This research is a case study type, which is a research done to analyze cases, which related to the development of departure room, arrival room and security check point facilities at domestic passenger terminal of Adi Soemarmo Boyolali International Airport. Also, it discusses how these factors are crucial for this airport. Taking processed data was undertaken in January 2020.

The analyzed data were taken from secondary data. The secondary data were the number of passengers set off at busy time, the number of visitors per passenger, the number of transferred passengers, the number of passengers arrive within the busy time, the average time for longest waiting, the proportion of passengers waited for the highest, the average time waiting for the fastest, the fastest waiting time of passengers, the maximum number of seats from the largest airplane, the arrival time of first passenger before boarding at gate hold room, and time of last passengers before boarding at gate hold room. In addition, the other secondary data were the width of departure hall area and waiting room. Then, there

were numbers of seats, the wide of arrival hall area, the numbers of centralized x-ray security and x-ray security in gate hold room, and the wide of the hold room area of the existing condition needed as the comparison of the calculation per January 2020.

This research included case study by gathering acquired data from library study and documentation, which was obtained from airport manager. The minimum standard for departure room, arrival room and security check point facilities at domestic passenger terminal is determined based on the needs of space, which refers to SNI 03-7046-2004 about Indonesia National Standard of Airport’s Passenger Terminal [1]. Finally, the results are compared and analyzed by existing condition and situation before the airport developed.

3. RESULT AND DISCUSSION

3.1 Departure and Arrival Room Facilities

The terminal departure domestic and international were in one location, so that all passengers aircraft through room facilities departure of a same except for the waiting room. There were ten locations of waiting room at Adi Soemarmo Boyolali International Airport. The waiting room 1-7 is used for the departure of domestic passengers, while room 8-10 is functioned as a waiting place before boarding for passengers with international flights.

The provided number of the capacity of the airport facilities to accommodate certain passengers is the goal of the study in airport facilities. Review is based on SNI 03-7046-2004 about Indonesia National Standard airport passenger terminal [1]. Table 1 shows a comparison between departure and the arrival of existing facilities with the results of research (per January 2020).

TABLE 1. The Comparison Condition of Facilities and The Arrival of The Departure Lounge.

No.	Kind of Facilities	Existing	The results (per Januari 2020)
1.	The Total Area of Departure Hall Area	4.817 m ²	1.627 m ²
2.	The Total Area of Waiting Room Area	3.607 m ²	1.065 m ²
3.	The Number of Seats Needed	1020 seats	678 seats
4.	The Total Area of Arrival Hall Area	1.945 m ²	1.416 m ²

Table 1 shows that based on the calculation, terminal capacity and the number of technical facilities have met the requirements of the operation of airport facilities as technique on SNI 03-7046-2004 [1]. It can be seen the comparison of existing terminal Adi Soemarmo International Airport with numerical

quantities are higher. The aim is that Adi Soemarmo Boyolali International Airport can prepare the increase of passengers in the next year since airport train as support facility have operated. Compared with their prior development sourced from [6] annual report (Persero) 2018, says that the number of seats (856

seats) are still sufficient, so the increase number is an effort to airport management for giving the best services.

There are comparisons of the research conducted by an author with relevant research. Research conducted by [9] said it needs the increase of the departure hall and the number of seats provided to passengers in terminal departure Sultan Mahmud Badaruddin II Airport Palembang, while the condition of terminal capacity and the number of existing facilities at Adi Soemarmo Boyolali International Airport have met the requirements SNI 03-7046-2004 [1] overall standard calculation.

There are also differences in research conducted by [5] at I Gusti Ngurah Rai Bali International Airpor. He received calculation results from several facilities, which reached the point of departure saturation as kerb or the court area, and departure hall by looking at prediction of the passengers' growth in 2023, so there is a need to review.

3.2 Security Check Point Facilities Random Security Check Point (SCP)

All aircraft passengers went through the same security check point, either for domestic or international departure. After the officers Aviation Security (AVSEC) check their tickets and identity cards, passengers got into an area check-in through a security check point beforehand. When other airport facilities of Security Check Point (SCP) used recording x-ray machine for baggage, the post metal detector or Walk Through Metal Detectors (WTMD), and Hand Held Metal Detectors (HHMD) for examining their passengers, at Adi Soemarmo Boyolali International Airport was different because they only used HHMD. SCP 1 at the airport was replaced by SCP Random which was a room specially used to check suspicious passengers' luggage when going through HHMD. Hence, not all passengers must go through SCP Random. For passengers who went through HHMD and were not considered suspicious can be directed into check-in counters which were located directly after the security checks.

Besides HHMD, the security checking of passengers is also supported by embedding Closed Circuit Television (CCTV) which is a camera to monitor the situation and the security visually at all in the area of space or territory of security checks, radio handy talky and body vest. The on-duty AVSEC officers at the departure gate were 2-3 people, depended on the packed of schedule flights. Although, during peak hours, there are no queues for security checks since the departure hall is quite wide and facilitated with seats.

The condition of existing checking facility security in the form of SCP Random could not be compared with security check facilities in accordance with

standard used in this research, namely SNI 03-7046-2004 [1]. This was caused by the standard of the centralized provided number of x-ray security checks, but at Adi Soemarmo Boyolali International Airport, previously described that there was no x-ray systems because SCP was random. Nevertheless, if the statement was the comparison of x-rays prepared for SCP random, Adi Soemarmo Boyolali International Airport prepared the two x-rays to that random checking. When it still used SNI 03-7046-2004 [1] to count how many x-rays required by SCP Random with current condition, it needed three units. If comparison was made, Adi Soemarmo Boyolali International Airport should add one more x-ray unit. However because of the applied examination which was random checking, the number of available x-ray was considered to be sufficient.

[8] conducted a study of related personnel competence AVSEC at Adi Soemarmo Boyolali International Airport. The research showed that the number of x-ray, either in SPC 1 (two units) or in SPC 2 (two units). When the study was in progress, there was still SPC 1 because the Random SPC procedures were introduced when new terminal departure turned to new terminal on the west side of existing terminal. This terminal began its operations on August 2019.

Random SPC instead centralized SPC 1 was not only applied at Adi Soemarmo Boyolali International Airport, but also applied in others and one of them was at Sam Ratulangi Manado International Airport. Based on information from [6], per 8 July 2018, Sam Ratulangi Manado International Airport had already ratified the system change of a security check point to passenger's aircraft. The system change security review was carried out based on Law of Minister of Transportation of the Republic of Indonesia on Number 80 in 2017 on The Flight Security National and Airport Security Program (ASP) 2018 agreed by the Directorate General of Aviation. The system change was held to improve security and reduce passenger accumulation in the SCP 1.

If previous examination for luggage was performed using x-ray; Walkthrough Metal Detector (WTMD), and Hand Held Metal Detector (HHMD) for check-in area was also done before entering check-in area; the current condition was done after passengers finish their check-in to check-in lounge and SPC 2. The luggage carried behind check-in counters AVSEC was conducted by the officer, so passengers cannot see the investigation luggage through x-ray. Luggage declared safe would be submitted to the airlines to be transported into the plane. But if it was found suspicious items, further examination would be necessary and be done exalting or calling passengers concerned for investigation. If done calling for passengers which luggage would have to be examined

further but they did not come or continue to flight, their luggage would not be departed. Next, luggage which was not departed will be submitted to the carrier by for further passengers concerned with newsworthy event goods from the handover AVSEC to the carrier.

A topic related to the implementation of a security check point in SPC 1 that led to suggestions for how the transformation of SPC 1 as is applied by [4] at the Juanda International Airport Surabaya. The study concludes that a groove a security check point is still less than optimal since they have not met the number of average ideal time required for handling the queue or the accumulation of passengers in SCP 1. The narrow space condition causes that the inquiry unable to allow the addition of facilities and supporting tools security in SCP 1 so that passengers' accumulation occurs. This might impact on the difficulty of supervision and profiling to passengers which led the escape of dangerous passengers' baggage carried to in aircraft. Hence, [4] suggests the transfer of SCP 1 as SCP the trunk. Passengers who came in could be directly check-in and their luggage SCP was taken from the trunk in makeup area. Other airport which did not implement the SCP 1 was Husein Sastranegara Bandung International Airport. [2] evaluates the development of passenger terminal, including analyzing the number of x-ray.

Although, these calculations and full explanations of how the system of SPC 1 applied whether or procedural or not, are equal to the Sam Ratulangi Manado International Airport. [2] states that the number of x-rays to examination focused at the Husein Sastranegara Bandung International Airport was two units. This study also predicts the numbers of x-rays to examination focused down into 2035 that are six units.

A research by [5] done at I Gusti Ngurah Rai Bali International Airport was the analysis of the needs of terminal rooms. The results of this study said that the numbers of existing x-ray (in 2011) was four units, while requirement calculation (in 2013) was eight units. It was not mentioned that the existing x-ray, whether existing or requirement calculation, are the total of centralized or gate hold room security checkpoint. However, it can be concluded that the additional x-rays were needed at I Gusti Ngurah Rai Bali International Airport because based on this research, the total number of existing x-ray was low compared to the passengers' growth. This information cannot be compared with the ones at Adi Sumarmo Boyolali International Airport because first, the applied system of SCP 1 was different and second, the numbers of passengers set out at I Gusti Ngurai Rai Bali International Airport were almost up to two million people (in 2013), while in Adi Soemarmo Boyolali International Airport only reached less than seven hundred thousand passengers in the same year.

Another study which is discussed is by Guntar et al. (2017) at Ahmad Yani International Airport, Semarang. It is said that x-rays in departure terminal had a total of four units, similar to the study of [5] and it was not mentioned that the existing x-ray, whether existing or requirement calculation, are the total of centralized or gate hold room security checkpoint. Besides, the research of [3] did not focus on the needs of the x-ray, but more deeply on expansion planning of waiting room. However, the results of this study also could not be compared with the conditions atn the Adi Soemarmo Boyolali International Airport, but it can be seen as a general picture of supply and demand for x-rays at airport with the same characteristics or when Adi Soemarmo Boyolali International Airport reaches the equivalent passengers' growth in the future.

3.3 Security Check Point (SCP) 2

The implementation of security checks at Adi Soemarmo Boyolali International Airport after checking was passing through SCP 2 prior to the waiting room to passengers by domestic departure domestic. When the passengers are in SCP 2 area, passengers show ID cards and boarding passes to personnel to check the boarding passes. Boarding pass officers would tap the boarding passes and give marks to boarding passes. Then, passengers went through the investigation SCP 2 by putting their luggage into an x-ray machine. Watches, belt, cap, wallet, and other things containing metallic element should be included and examined to the x-ray. Examination in SCP 2 was equipped with Walkthrough Metal Detector (WTMD) and Hand Held Metal Detector (HHMD) so that there was no dangerous luggage escaped from the investigation. SCP 2 was located on the second floor after escalator, with 401 m² in total area of waiting gate room. If calculated in accordance to SNI 03-7046-2004 [1], it was obtained that the result of width of gate hold room equals to 374 m². This means that the total area of the gate hold room has already fulfilled the standard.

Based on calculations on SNI 03-7046-2004 [1] for the number of x-ray to the examination of security in gate hold room obtained the result was two units. Compared with the current situation, x-ray in SCP 2 had the same numbers, so it couldbe concluded that checking facility security in SCP 2 had met the standard.

Pulling it on the comparison of the study of SPC 2 conducted by [2] at Husein Sastranegara Bandung International Airport, written that the total x-rays available in SPC 2 is two units. While the requirement calculation based on the number of x-rays in 2035 is only one unit. If they find predicted number of passengers increasing in the year, the x-ray should be provided more. But, there is possibility because of this anomaly, for example check-in area, gate hold room,

and the departure waiting room which extent more than they were required. It could occur the spread of passengers that may be evaded the queue in SPC 2

4. CONCLUSION

The facilities of the departure room, arrival room and a security check point at passenger domestic terminal of Adi Soemarno Boyolali International Airport have fulfilled the technical requirements to the operation of the airport as stated on SNI 03-7046-2004 [1]. When compared with the existing conditions, the results of this figure were above as the airport just developed with the purpose of facilitating the possibility of increasing number of passengers in the future. Although the condition of management facilities showed the airport still met the service standards, the construction had been done based on the increase in the number of passengers, and indirectly the increase in quality service to passengers as well.

Some things can be suggested from this study such as, it needs an evaluation of departure room, arrival room, and security check point facilities at passenger terminal during holiday and high or peak season. Pandemic can also be one of the causes of differences from developed facility occupancies. Because of those reasons, it is interesting to analyze as a base for decision making related to the next airport management strategies.

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