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Analysis of Passenger Satisfaction on Green Airport Blimbingsari International Services

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ABSTRACT: Since 2019, Blimbingsari Airport has been designated as an International Airport with a green airport concept. This airport has received the most prestigious award in The 2022 Aga Khan Award for Architecture. Several energy efficiencies and conservation program initiatives certainly have an impact on the service facilities provided. However, this program implies an increase in the number of passengers. This increase certainly requires attention to be studied further because it is related to the airport's ability to serve the needs of service users. This study was conducted to determine the service quality of Blimbingsari International Airport based on passenger perceptions. 100 respondent were randomly selected to be the research sample. This study uses 5 (five) service quality dimensions which include 7 service variables to measure airport service quality. Data collection was carried out in mid-June 2022 by distributing a Likert scale 5 questionnaire. Data analysis used the IPA and Servqual gap methods. Based on the results of data analysis, it can be seen that there are 7 (four) service variables that are important to determine the quality of airport terminal services, namely (1) the ease of passengers in obtaining information, (2) the reliability of airport facilities and equipment, (3) the coolness and comfort of the airport terminal. , and (4) a clean airport terminal room. The servqual gap shows that 5 (five) dimensions of service quality are positive. Based on these results, it can be concluded that the service quality of Blimbingsari International Airport is very satisfying for passengers.

Keywords: Green Airport, passanger Satisfaction, IPA, servqual gap.

INTRODUCTION

Banyuwangi International Airport in Blimbingsari village, Blimbingsari District, Banyuwangi Regency, East Java Province is an airport that has a runway of up to 2250 meters and has been operating since 2019 December 2010 (Direktorat Jenderal Perhubungan Udara, 2019).

Banyuwangi Airport carries the concept of a green airport as the only airport in Indonesia (Christine & Setyanto, 2021). The cost of building Banyuwangi airport only requires 45 M, which is 4 times cheaper when you compare it to other airports. Although it uses relatively small regional expenditure funds, the architectural design at the airport adopts local wisdom from the Banyuwangi people. That's why then the airport has several unique features that make it look different when compared to other airports in Indonesia (Mayasari, 2022).

Every year, the number of passengers at Banyuwangi airport continues to increase significantly. In 2011, the number of passengers which was originally 7,836 people then increased to 140,683 passengers in 2017 (DBpedia, 2022). Users of aviation transportation facilities at Blimbingsari International Airport have various economic, socio-cultural, and educational backgrounds. The development of the Green Airport concept will of course sacrifice several facilities to reduce operating cost efficiency. Meanwhile, flight service users generally consider airport support facilities (Direktorat Jenderal Perhubungan Udara, 2019; Mayasari, 2022).

The quality of services provided by the airport is very important for consumers who use airport services (Barakat et al., 2021; Mainardes et al., 2021; Mesfautri, 2017). Service user satisfaction can be influenced by the provision of adequate quality infrastructure and services that can provide satisfaction to service users. Facilities in the service business are important factors that need to be considered (Antwi et al., 2020; Chonsalasin et al., 2021; Fraser et al., 2013), especially those related or closely related to what is felt by service users. Consumers must feel comfortable with the services provided by the airport, so that the company's image will be good in the eyes of consumers (Lee & Yu, 2018; Martin-Domingo et al., 2019; Moro et al., 2020). Because its function is not only as a place to get off passengers, goods or cargo. To find out the level of customer satisfaction, one of them can be done by comparing the performance / services provided and consumer expectations (Allen et al., 2020; Halpern & Mwesiumo, 2021; S. Hong et al., 2020; Prentice & Kadan, 2019).

Research on airport service user satisfaction has been carried out, among others, for the analysis of service quality (Bogicevic et al., 2013; Vashishth, 2021), level of customer satisfaction (Dambagolla & Sumanasiri, 2020), service improvement, and airport user perceptions (S.-J. Hong et al., 2020; Prebezac, 2010). These studies generally analyze the relationship or influence of service quality on the satisfaction of passengers, visitors, tourists, or airport service users. For this reason, it is necessary to conduct a study that aims to analyze the satisfaction of airline service users at Blimbingsari airport, Banyuwangi.

METHOD

Consumers who use airline services come from various social, cultural, economic, and even educational backgrounds. The level of education can affect how a person behaves towards something. The level of education of a consumer of airline services will be able to determine the assessment of service quality. The higher a person's education will tend to understand the quality of good service so that the level of education will affect the level of service satisfaction. The research concept can be shown through the schematic in Figure 1.

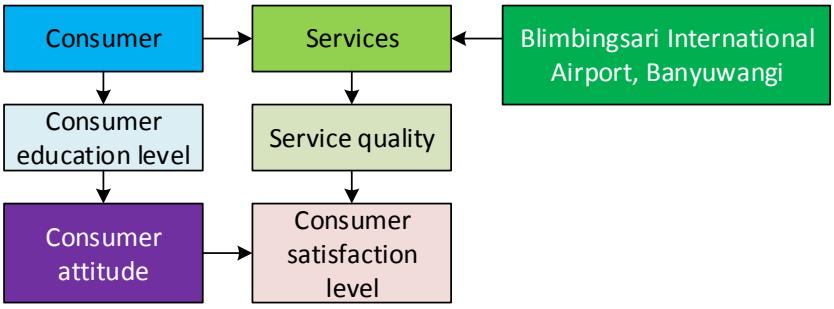

Figure 1. The concept of research on the level of user satisfaction at Blimbingsari International Airport, Banyuwangi.

The study was conducted with respondents using airline services at Blimbingsari airport, Banyuwangi. The research instrument used a questionnaire using the google form application (Creswell & Creswell, 2018; Sugiyono, 2019, 2022). Service user data is obtained from the flight manifest at the airport. Respondents were asked to fill in their identity related to educational background. The questionnaire uses 5 answer choices with a Likert scale with a score of 1-5 for the answer choices of unsatisfactory, unsatisfactory, quite satisfactory, satisfactory and very satisfactory. Question points in the questionnaire include the assessment of airline service users regarding the service. The type of service in question includes ticketing, boarding pass, during flight, and upon arrival at the destination.

The results of the respondents' responses were then given a score according to the respondent's answer choices. The answer value is then analyzed according to the respondent's statement category and grouped based on the respondent's education level. Data processing is carried out to calculate the average value of the answers. Statistical analysis was performed using SPSS version 20 to test the validity, reliability, and significance of the data (Basuki & Prawoto, 2019; Ghozali, 2016; Noels, 2018; Nurgiyantoro et al., 2017; Santoso, 2014). The results of data processing are displayed in the form of tables and graphs and analyzed according to the existing theory.

The assessment of this respondent is based on the following criteria:

Table 1. Rating interval

No	Interval	Criteria
1	1,00 - 1,79	Very Bad
2	1,80 – 2,59	Bad
3	2,60 – 3,39	Not good
4	3,40 – 4,19	Good
5	4,20 – 5,00	Very good

RESULT AND DISCUSSION

The validity test results for each statement contained in the questionnaire can be shown in Table 1 as follows.

Table 2. Validity Test Results

No	Service Variables	r_{count}	Information
a.1	Easy directions at the airport	0,411	Valid
a.2	Passenger vehicle parking facilities	0,453	Valid
a.3	Parking space availability	0,443	Valid
a.4	Accessibility of parking space to terminal	0,432	Valid
a.5	Cleanliness of parking facilities	0,442	Valid
a.6	Parking service security	0,433	Valid
a.7	Parking protection against the weather	0,442	Valid
b.1	Easy information in the airport	0,431	Valid
b.2	Clarity of flight information on information and notification screens	0,412	Valid
b.3	Clarity of information about flight delays and departures	0,421	Valid
b.4	Information on emergency mitigation flow	0,445	Valid
b.5	Area for handling canceled/scheduled flights	0,502	Valid
b.6	Information regarding lost items at the departure terminal	0,403	Valid
b.7	Post-arrival multimodal information	0,434	Valid
c.1	Information security check flow	0,433	Valid
c.2	Attitude of officers to passengers	0,534	Valid
c.3	Aviation safety equipment performance	0,432	Valid
c.4	Information regarding in-flight luggage	0,508	Valid
c.5	Security check time	0,456	Valid
c.6	Accuracy of security officers in the inspection process	0,454	Valid
c.7	Availability of Covid-19 protocol facilities	0,507	Valid
d.1	Sign board instructions and check-in facility flow	0,465	Valid
d.2	Check-in time	0,543	Valid
e.1	In-airport café and restaurant service	0,546	Valid
e.2	Terminal area cleanliness	0,554	Valid
2.3	Availability of ATM machines and tourist information services	0,432	Valid
e.4	Waiting room availability	0,463	Valid
e.5	Availability of room for breastfeeding mothers	0,453	Valid
e.6	Availability of smoking area	0,504	Valid
e.7	The coolness of space in the airport	0,503	Valid
e.8	Worship facilities, toilets and other support	0,509	Valid

The value of r_{table} with the number of respondents as many as 100 respondents obtained a value of 0.201. Based on the value of rcount > rtable = 0.201, it can be concluded that all of the statement items have a correlation with something to be measured. So it can be said that the statement items are valid and can be used to measure the dimensions being measured.

In addition to the validity test, a reliability test was also conducted to determine whether the tools used were reliable or not. Based on the calculation results, the value of r_{count} = 0.805 with r_{table} = 0.60, where rcount > r_{table} so it can be concluded that the variables used in the questionnaire can be trusted.

Servqual Analysis

The Servqual method is intended to measure service quality through the gap between customer expectations and service quality (Dambagolla & Sumanasiri, 2020; Parasuraman et al., 1988, 1991). This method consists of two main steps, namely obtaining customer perceptions of the quality of services provided and customer expectations of service quality.

Servqual gap is calculated by the formula:

Servqual gap = (Service Quality Performance Score) – (Customer Expectation/Interest Score)

The results of servqual analysis in this study are as follows:

Table 3. Results of Servqual Analysis

No	Service Variables	Perception	Hope	Gap	Gap Average
a.1	Easy directions at the airport	4,11	5	-0,89	
a.2	Passenger vehicle parking facilities	4,53	5	-0,47	
a.3	Parking space availability	4,43	5	-0,57	-0,63
a.4	Accessibility of parking space to terminal	4,32	5	-0,68	
a.5	Cleanliness of parking facilities	4,42	5	-0,58	
a.6	Parking service security	4,33	5	-0,67	
a.7	Parking protection against the weather	4,42	5	-0,58	
b.1	Easy information in the airport	4,31	5	-0,69	
b.2	Clarity of flight information on information and notification screens	4,12	5	-0,88	
b.3	Clarity of information about flight delays and departures	4,21	5	-0,79	
b.4	Information on emergency mitigation flow	4,45	5	-0,55	-0,65
b.5	Area for handling canceled/scheduled flights	5,02	5	0,02	
b.6	Information regarding lost items at the departure terminal	4,03	5	-0,97	
b.7	Post-arrival multimodal information	4,34	5	-0,66	
c.1	Information security check flow	4,33	5	-0,67	
c.2	Attitude of officers to passengers	5,34	5	0,34	
c.3	Aviation safety equipment performance	4,32	5	-0,68	
c.4	Information regarding in-flight luggage	5,08	5	0,08	-0,25
c.5	Security check time	4,56	5	-0,44	
c.6	Accuracy of security officers in the inspection process	4,54	5	-0,46	
c.7	Availability of Covid-19 protocol facilities	5,07	5	0,07	
d.1	Sign board instructions and check-in facility flow	4,65	5	-0,35	0,04
d.2	Check-in time	5,43	5	0,43	
e.1	In-airport café and restaurant service	5,46	5	0,46	
e.2	Terminal area cleanliness	5,54	5	0,54	-0,045
2.3	Availability of ATM machines and tourist	4,32	5	-0,68	

	information services			
e.4	Waiting room availability	4,63	5	-0,37
e.5	Availability of room for breastfeeding mothers	4,53	5	-0,47
e.6	Availability of smoking area	5,04	5	0,04
e.7	The coolness of space in the airport	5,03	5	0,03
e.8	Worship facilities, toilets and other support	5,09	5	0,09

This analysis was conducted to measure the gap between the expectations of service users and their perceptions of Blimbingsari International Airport, based on 31 items or attributes related to service quality. In calculating the servqual score, the 31 statements in the questionnaire representing expectations and perceptions statements were grouped and related according to the five variables as previously mentioned.

In the table, the negative servqual value is still slightly below -1.5 indicating that the user feels that the level of service provided is sufficient to meet user expectations. Attributes with a value below -1.5 are the dimensions that have the most serious deficiencies and require special attention by Blimbingsari International Airport in terms of making improvements and improving services. Overall, it shows that the overall quality of services provided by Blimbingsari International Airport is rated as good by users.

Cartesian chart analysis

From the Cartesian diagram, it can be seen that the location of the service quality variables is divided into two quadrants. From the results of the Cartesian diagram analysis, it can be seen the position of the level of customer expectations with the performance of the service quality provided by the company. The results of the interpretation of the position of the level of customer importance with service quality performance that all variables are spread in quadrants I and II. Where there are five variables that are priorities to be improved, because they are highly expected by customers / airplane passengers, when expectations are met, the customer will be very satisfied. There are five variables that need to be improved, namely: Parking protection against the weather, Completeness of products in restaurants and cafes, Availability of various menus, Availability of special children's rooms, Availability of smoking areas, Availability of information on the area around the airport.

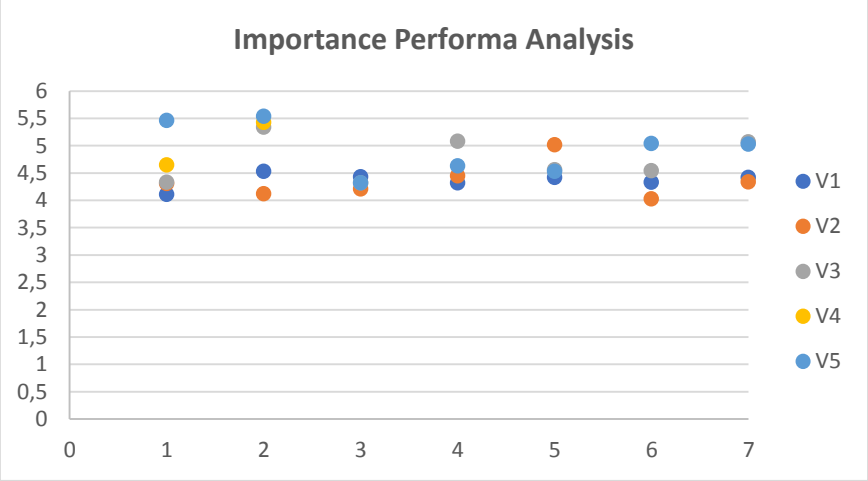

Figure 2. IPA diagram

Quadrant I shows that the attributes of the level of user expectations and the level of service quality performance are both high so that consumers feel satisfied. This requires the company to maintain its position (maintain achievement). The indicators included in this quadrant are Parking facility services, Availability of parking spaces, Availability of parking spaces to the terminal, Clarity of information regarding aircraft delays and departures, Areas for handling canceled flights/schedule changes, Multimodal information after passengers arrive in continuing the next transportation. , Information flow and flow at security checks, Signboard instructions, and check-in facilities flow, Cleanliness in the terminal area, Availability of seats in the waiting room, Availability of central air conditioning, and Signs for exiting and entering the airport. With the high value of the level of customer expectations and the high value of the level of service quality performance, the variables included in quadrant I must be maintained, it will be better if it is increased to touch the value of consumer interests. The strategy that should be carried out by the company must be able to maintain the attributes included in this quadrant which have been assessed by the customer as a satisfactory service. This has indeed been done by the airport, so it must prioritize the professionalism of employees and the speed of employees in serving employees. In addition, the management should provide a variety of products and be supported by the latest technology to be able to provide optimal work results.

The airport must be able to improve the quality of services consisting of tangible, reliability, assurance, empathy, and responsiveness. At the same time, this aspect is also one of the sources that influence customer expectations. Because with good physical evidence, consumer expectations are higher. Therefore, it is important for the company to find out how far the most appropriate physical aspect is, which still gives a positive impression on the quality of service provided but does not cause customer expectations to be too high so that it can meet consumer needs and provide satisfaction to consumers. The relationship between physical form and customer satisfaction is that physical form has a positive influence on customer satisfaction. The better the consumer's perception of the physical form, the higher the consumer's satisfaction. From the results of the calculation of the customer satisfaction index, the level of customer satisfaction is 79%, this means that the customer is satisfied with the services and facilities provided by the airport. Even though the customer is satisfied with the service received, the airport still needs to improve the quality offered continuously, so that it can meet customer expectations. As seen in the gap analysis, by calculating the difference between the level of satisfaction and the level of importance for each statement item. From the results of these calculations, the gap results for each dimension are negative, so improvements are still needed for each service item, in order to increase customer satisfaction.

CONCLUSION

The circulation of passenger movements at the Blimbiingsari International Airport passenger terminal is quite good with the separate circulation of departure - arrival passengers even though all movements are carried out in the same building. This ensures that aspects that have the potential to interfere with flight operations and safety can be avoided.

Based on the evaluation of services based on passenger perceptions, the average level of satisfaction with all tested attributes is 4.64. This shows that the overall passenger service carried out by Blimbiingsari International Airport is considered good/satisfactory.

Although overall respondents are satisfied with the services provided by Blimbingsari International Airport, there is still a high difference between expectations and service performance which can reduce the service level of Blimbingsari International Airport itself, to improve service quality and corporate image in the future, it is important to know the aspects which is a top priority for improvement.

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