

# Passenger satisfaction: The role of service quality in SAMS Sepinggan Airport Balikpapan

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## Abstract

This study purposes to invest the relationship between the quality of Customer Service (CS) services at Sultan Aji Muhammad Sulaiman Airport (SAMS) Sepinggan Balikpapan and the level of passenger satisfaction is using Multiple Linear Regression with the using of SPSS statistical analysis software version 26. The results of the analysis showed that the value of the constant coefficient was 2.401, with tangible having a coefficient value of 0.239, Reliability of 0.222, responsiveness of 0.165, assurance of 0.141, and empathy of 0.164. These values indicate that the provision of quality CS services in these aspects positively affects passenger satisfaction. The partial test highlights that the tangible CS has the most dominant impact on passenger satisfaction. This shows that the tangible aspect of service is very significant in shaping passengers' positive assessment of their experience at the airport. The implication is the importance of improving tangible aspects in the airport's customer service strategy. These findings provide valuable insights for the management of Balikpapan SAMS Sepinggan Airport to improve their customer service strategy, with special emphasis on improving tangible CS services. In addition, the results of this study provide a basis for policymakers to design regulations that support the improvement of service quality in the aviation sector. These measures have the potential to boost economic and social growth through increased demand for air travel.

## Keywords

Passenger satisfaction, Service quality, Aviation sector

## Introduction

The development of the aviation industry in the growing global tourism sector gives rise to fierce competition, where the increase in passenger numbers is not always in line with customer satisfaction. Balikpapan's Sultan Aji Muhammad Sulaiman Sepinggan Airport, as an integral part of aviation infrastructure, is in the midst of a challenge to maintain its reputation and meet customer expectations. This study aims to investigate the factors that affect customer satisfaction at these airports, focusing on the quality of services provided by Customer Service (CS). A deep understanding of the relationship between

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CS service quality and passenger satisfaction is the basis for identifying potential improvements that can be implemented by airports. Multiple Linear Regression methods and statistical analysis using SPSS software version 26 was used to uncover the relative impact of tangible, reliability, responsiveness, assurance, and empathy provided by CS on passenger satisfaction.

Service quality has proven to be a crucial element in maintaining a competitive advantage in service provider institutions. As part of the transportation industry, airports have core responsibilities related to flight safety, security, and passenger comfort [1][2]. Although economic challenges may exist, especially for airports that are also business organizations with profit demands from shareholders, the top priority remains on these three core tasks. In this context, the research also explores the complexity of measuring airport destinations related to development and sustainability.

The challenge of answering questions about how, where, and what services should be provided to achieve these goals is a central focus of this study. With exponential research in the field of service marketing, the importance of service organization to airport companies is increasingly recognized, with an emphasis on building service quality to meet consumer expectations [3]. Specific challenges faced by airports in serving passengers, such as terminal congestion, uneven demand, and variations in consumer expectations, demand innovative and sustainable strategies. In this context, a deep understanding of the factors affecting customer satisfaction can be key to achieving better administration of financial resources for airport management companies [4][5][6].

By focusing on the quality of services provided by airport CS, the purpose of this study is to first assess and identify the extent to which the tangible, reliability, responsiveness, assurance, and empathy provided have an influence on the perception of passenger satisfaction. Second, understand the relative contribution of each factor, especially the focus on CS reliability, to passenger satisfaction at Balikpapan SAMS Sepinggan Airport. Third, present practical recommendations for airport management to improve the quality of CS services, with the purpose of increasing passenger satisfaction and company reputation.

Fourth, it provides an empirical basis for policymakers in designing regulations that support improving service quality in the aviation sector, with the hope of having a positive impact on economic and social growth. Thus, this research is expected to make a positive contribution to practical and academic understanding of the factors that affect customer satisfaction in the aviation environment, especially at SAMS Sepinggan Airport Balikpapan.

## Methods

This research involved 1,110 respondents who were users of Balikpapan SAMS Sepinggan Airport CS services, with the study conducted in November 2022. Of these,

286 people were selected as research samples. The survey was conducted at various strategic points at the airport, selected based on the high number of passengers passing through the area. The research methodology adopted a Likert type measurement scale, where respondents were asked to give a rating from 1 (strongly disagree) to 5 (strongly agree), in accordance with the framework proposed by Law et al. [7], and Hassan and Salem [8].

About 38.1% of respondents were male and 61.9% female. Most respondents came from the age group of 20 to 30 years (57%). More than 39.9% of respondents work as self-employed. Most of the responses to flying 2-5 times can be seen from Table 1.

Table 1. Profile Demographics Response

	Variable	Frequency	Percentage
Gender	Man	109	38.1
	Woman	177	61.9
Age	20-30	163	57
	31-40	84	29.4
	41-50	31	10.8
	Above 50	8	2.8
Work	Uncivil servant	114	39.9
	Civil servant/state company	74	25.9
	Private employees	53	18.5
	Soldier/police	22	7.7
	Other	23	8.0
Flight frequency	2 to 5 times	141	49.3
	6 to 10 times	73	22.5
	10 to 15 times	42	14.7
	15 times or more	30	10.5

Source: Data processed by Researchers (2023)

The validity of the questionnaire instrument is tested through prates test and correlation between items. Table 2 examines independent variables (predictors) such as tangible, reliability, responsiveness, assurance, empathy, and dependent variability, namely passenger satisfaction in 30 respondents to find out the extent to which the measuring instrument to be used can really be used as a measuring instrument. The comparison to test the measuring instrument is in the form of a questionnaire with a total of questionnaire grains. The correlation number (r) count obtained is then compared with the correlation number (r) in the table with an error rate of 5% of the result r count compared to r table where  $df = n-2$  with sig 5%. After testing the validity, it is known that all statement items used in this study are valid because they are shown in a positive Pearson Correlation value and greater than the calculated r value of 0.312.

Reliability is measured using the Cronbach alpha coefficient to ensure consistency of survey results. Table 3 is a reliability test using alpha coefficient measurement analysis techniques. The results of the alpha coefficient measurement technique in reliability testing were then consulted with the instrument reliability table at a significant level of 5% with 30 respondents. Based on the analysis, all statements for each variable in this study are considered reliable because they have a Cronbach's Alpha value of  $> 0.60$ . So

that the sample data obtained can be trusted and continued for processing, calculation and subsequent use of analysis.

Table 2. Validity Test

Variable	Indicator	r count	r table	Result
Tangible	Employee appearance	0.814	0.312	Valid
	Modern equipment	0.804	0.312	Valid
	Place and waiting room	0.795	0.312	Valid
Reliability	Service as promised	0.885	0.312	Valid
	Good service	0.783	0.312	Valid
	The service is non-stop	0.815	0.312	Valid
Responsiveness	Ready and receptive service	0.870	0.312	Valid
	Employee response to advice	0.831	0.312	Valid
	The service's fast	0.818	0.312	Valid
Assurance	Wide employee knowledge	0.864	0.312	Valid
	Talk fun	0.858	0.312	Valid
	Polite to passengers	0.829	0.312	Valid
Empathy	Attention to passengers	0.764	0.312	Valid
	Employee shyness	0.787	0.312	Valid
	Pay attention to the needs of the passengers specifically	0.828	0.312	Valid
Passenger satisfaction	Meet customer expectations	0.736	0.312	Valid
	Good employee performance	0.923	0.312	Valid
	Comparing employee services	0.904	0.312	Valid
	Passenger experience	0.776	0.312	Valid
	Confirmation delivered by employee	0.873	0.312	Valid

Source: Data processed by Researchers (2023)

Table 3. Reliability Test

Variable	Cronbach's Alpha	Critical Value	Result
Tangible	0.828	0.60	Reliable
Reliability	0.838	0.60	Reliable
Responsiveness	0.840	0.60	Reliable
Assurance	0.846	0.60	Reliable
Empathy	0.823	0.60	Reliable
Passenger satisfaction	0.815	0.60	Reliable

Source: Data processed by Researchers (2023)

## Results and Discussion

The collected data will be obtained using multiple linear regression with the help of SPSS statistical software version 26. This analysis will help identify the relative effect of each dimension of service quality on passenger satisfaction. Parasuraman et al. in 1985 stated that the components and classification of service quality expectations have five variables such as tangible, reliability, responsiveness, certainty, and empathy [2][6][8][9]. This study uses multiple linear regression analysis to be able to predict the extent of the influence of the independent variable on the dependent variable by testing the hypothesis both simultaneously (F test) and partially (t test). Based on statistical analysis of multiple linear regression equations using SPSS version 26.0, the following equation is produced.

$$Y = 2.401 + 0.239X_1 + 0.222X_2 + 0.165X_3 + 0.141X_4 + 0.164X_5$$

The results of the multiple linear regression equation show a constant coefficient value of  $b_0 = 2.401$  indicating that at the time of manifested, reliability, responsiveness, certainty, assurance, the value shows a constant value or zero, passenger satisfaction at the SAMS Airport CS service is  $b_0 = 2.401$ .

The tangible relationship to passenger satisfaction at Balikpapan SAMS Sepinggán Airport is shown by the value of the regression coefficient  $b_1$  of 0.239 indicating that every time there is an addition of a tangible variable of one unit, on average it will increase passenger satisfaction at Balikpapan SAMS Sepinggán Airport by 0.239 units assuming variables of reliability, responsiveness, assurance, empathy in a constant state (fixed). So, it can be explained that tangible affects passenger satisfaction just like the research that has been done by Awadh [2], Nugroho [6] and Dambagolla dan Sumanasiri [9]. But it's different from research Hassan and Salem [8] show that tangible has no effect on passenger satisfaction.

Table 4. Multiple Regression Analysis Results

Variable Independent	Regression Coefficient	t-count	Sig	Result
Constant	2.401	1.988	0.048	Significance
Tangible	0.239	4.479	0.000	Significance
Reliability	0.222	4.131	0.000	Significance
Responsiveness	0.165	3.180	0.002	Significance
Assurance	0.141	2.731	0.007	Significance
Empathy	0.164	2.962	0.003	Significance
R = 0.537			F-count = 22.660	
R square = 0.288 (28.8%)			t-table = 1.65	
Adjust R square (R <sub>2</sub> ) = 0.275			F-table = 2.24	
Durbin Waston = 1.346			Sig t = 0.05	

Source: Data processed by Researchers (2023)

The relationship of reliability to passenger satisfaction at Balikpapan SAMS Sepinggán Airport is shown by the value of the  $b_2$  regression coefficient of 0.222 indicating that every time there is an addition of a reliability variable by one unit, on average it will increase passenger satisfaction at Balikpapan SAMS Sepinggán Airport by 0.222 units assuming tangible variables, responsiveness, assurance, empathy in a constant state (fixed). So, it can be concluded that reliability affects passenger satisfaction just like the research that has been done by Awadh [2], Nugroho [6] and Dambagolla dan Sumanasiri [9]. But different from research Hassan and Salem [8] shows that reliability has no effect on passenger satisfaction.

The relationship of responsiveness to passenger satisfaction at Balikpapan SAMS Sepinggán Airport is shown by the value of the regression coefficient  $b_3$  of 0.165 indicating that every time there is an addition of a responsiveness variable of one unit, on average it will increase passenger satisfaction at Balikpapan SAMS Sepinggán Airport by 0.165 units assuming tangible variables, reliability, assurance, empathy in a constant state (fixed). So, it can be concluded that responsiveness affects passenger satisfaction

just like the research that has been done by Awadh [2], Nugroho [6] and Hassan and Salem [8]. But it is different from research Dambagolla dan Sumanasiri [9] shows that responsiveness has no effect on passenger satisfaction.

The relationship of guarantee to passenger satisfaction at Balikpapan SAMS Sepinggan Airport is shown by the value of the b4 regression coefficient of 0.141 indicating that every time there is an addition of a guarantee variable of one unit, on average it will increase passenger satisfaction at Balikpapan SAMS Sepinggan Airport by 0.141 units assuming tangible variables, reliability, responsiveness, empathy in a constant state (fixed). So, it can be concluded that the guarantee affects passenger satisfaction just like the research that has been done by Awadh [2], Nugroho [6], and Dambagolla dan Sumanasiri [9]. But it is different from research Hassan and Salem [8] indicate that the guarantee has no effect on passenger satisfaction.

The relationship of empathy to passenger satisfaction at Balikpapan SAMS Sepinggan Airport is shown by the value of the b5 regression coefficient of 0.164 indicating that every time there is an addition of empathy variables by one unit, on average it will increase passenger satisfaction at Balikpapan SAMS Sepinggan Airport by 0.164 units assuming tangible variables, reliability, responsiveness, guarantees, in a constant state (fixed). So, it can be concluded that empathy affects passenger satisfaction just like the research that has been done by Awadh [2], Nugroho [6] and Dambagolla dan Sumanasiri [9]. But it is different from research Hassan and Salem [8] show that empathy has no effect on passenger satisfaction.

In addition, in Table 4 it can be seen that the F value is 22.660 while  $F_{table}$  is 2.24 with a 95% confidence degree,  $\alpha = 0.05$  degree of freedom (df) = n-2, then df = 30-2 = 28. and obtained the result is a simultaneous correlation coefficient value of  $R = 0.312$  meaning that there is a very strong and positive relationship with the variables of tangible service quality, reliability, responsiveness, certainty, empathy for passenger satisfaction variables at Balikpapan SAMS Airport. The results of the coefficient of determination simultaneously show the contribution of tangible service quality variables, reliability, responsiveness, assurance, empathy to passenger satisfaction variables at Balikpapan SAMS Airport of  $R^2$  0.288. Based on simultaneous tests or F tests,  $F > F_{table}$  obtained the value is  $22,660 > 2.24$ , meaning that the quality of tangible service, reliability, responsiveness, assurance, empathy together have an influence on passenger satisfaction variables at Balikpapan SAMS Airport.

Multiple linear regression tests used to see the causality relationship between the quality of servants, such as tangible, reliability, responsiveness, assurance, and empathy provided by SAMS Sepinggan Airport Balikpapan CS on passenger satisfaction are proven to be related and based on partial tests, tangible services from CS most dominantly affect passenger satisfaction at Balikpapan SAMS Sepinggan Airport.

## Conclusion

The results of this study consistently support theories that highlight the tangible role of service in improving customer satisfaction and service quality. This finding is in line with the literature that emphasizes tangibility as a key element in service. However, this study makes an additional unique contribution by highlighting the tangible Customer Service (CS) service as the dominant factor, regarding its effect on passenger satisfaction.

The consistency of research results with previous studies reinforces the idea that service quality has a significant impact on customer satisfaction in various industrial sectors. However, this study places additional emphasis on the intangibility of CS services as a factor that plays an important role. The identification of tangible CS services as the most dominant influence on passenger satisfaction has practical implications for airport management. Improving training and resources for CS, as well as implementing best practices to ensure service deliveries, can significantly improve positive perceptions of passengers.

By understanding the factors that most influence passenger satisfaction, airports can design more focused improvement plans. Improvement strategies focused on tangible improvement of CS services were identified as key steps to improve passenger satisfaction. Nonetheless, limitations of the study include survey methods and sample selection, which may limit the generalizability of the findings. In addition, subjective aspects of customer satisfaction that are difficult to measure with precision may not be fully represented.

Future research may involve more in-depth analysis of subjective factors of customer satisfaction and longitudinal research to track changes in passenger perceptions over time. Further assessment may also consider the influence of external factors, such as weather conditions or other situational factors. With these findings, it is expected to have a positive impact on the aviation industry as a whole. Other airports may adopt a similar approach to improve the quality of their services, focusing on the aspects that most influence customer satisfaction.

The discussion concluded that this study made a significant contribution to the understanding of the factors affecting passenger satisfaction at Sultan Aji Muhammad Sulaiman Airport (SAMS) Sepinggan Balikpapan and provided the basis for practical improvements in the aviation sector. The literature confirms that tangible services at airports can guarantee customer satisfaction, increase passenger return visits, and strengthen their loyalty. Overall, the results of this study provide valuable insights for airport management and the aviation industry in an effort to improve service quality and understand passenger preferences and expectations.

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