

Fulfilment Quality of Service at El Tari Airport Kupang for Increasing Satisfaction Passenger

Anie Adrianti Tuati¹, Deasi D. A. A. Daud² and Amy Wadu²

¹Civil Engineering Department, State Polytechnic of Kupang, Adi Sucipto Street, Kupang, Indonesia

²Civil Engineering Department, State Polytechnic of Kupang, Kupang, Indonesia

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Abstract: El Tari International Airport is the main gateway for tourists to eastern Indonesia, especially foreign tourists. The increase in flight service users at Kupang El Tari Airport is very high, so there is often a buildup of passengers. This study uses the IPA method, Gap analysis and Kano Model. The results show that there are 3 service variables at El Tari Airport which have the highest negative gap value, the highest is var 2. The suitability of seating capacity in the waiting room is (-0.71), the 6th variable Availability and adequacy of the number of trolleys is (-0.72), and the 22nd variable. Availability of clean and comfortable children's playroom facilities (-0.63). This high gap means that the three service variables have not met passenger expectations. There are 5 variables in the basic factor group, namely: (1) the 1st variable, the maintenance and availability of cleaning facilities at the airport terminal, (2) the 2nd variable, the suitability of seating capacity in the waiting room, (3) the 5th variable, Adequate airport terminal lighting system, (4) the 6th variable, Availability and adequacy of the number of trolleys, and (5) the 24th variable, Availability of smoking room facilities.

1 INTRODUCTION

Air transportation as a mode of transportation has a major advantage, namely the relatively faster speed factor when compared to land and sea transportation modes. The development of air transportation at the national level is directed as a superior mode of transportation for the movement of people between provinces, between islands and abroad (Miro, 2012). An airport is an outlet that directly serves the movement of people and goods from / to overseas areas. Muttaqin et al, (2009) stated that economic growth and local advantages require increased local infrastructure development including air transportation.

Service quality is an important issue in the management of transportation services at this time, including air transportation services. Public service providers, in this case airports, do not only focus on providing infrastructure, facilities and human resources, but information development encourages transportation service users to be increasingly critical of public services, by proactively communicating with consumers to find out the dynamics of consumer needs, therefore it is necessary carried out continuous improvement of public services (continuous

improvement).

The development of airport traffic requires good facilities and infrastructure as well as services so that it can accommodate the movement of air traffic flow and provide comfort for air transportation service users, the better and complete the existing facilities and infrastructure the better the efficiency and level of service based on applicable minimum standards (Frans,dkk,2014).

El Tari International Airport is an airport located in the city of Kupang - East Nusa Tenggara and is the main gateway for tourists to eastern Indonesia, especially foreign tourists. Throughout 2019, El Tari Airport has served as many as 1,859,268 passengers with an increase in international passengers from 1,480 passengers in 2018 to 7,989 passengers, or an increase of 440 percent. Meanwhile, aircraft movement traffic was recorded to have served as many as 25,987 aircraft movements with international aircraft movement traffic increasing from 115 to 206 movements or an increase of 79 percent. Accordingly, the total traffic of cargo movements increased by 15 percent or increased from 6,955 tons to 7,979 tons of cargo transported, with an increase in international cargo traffic of 71 percent (Barata,2020). The increase in traffic,

especially the movement of international passengers, aircraft and cargo at El Tari Airport, is a potential market for business actors. Especially after El Tari Airport has completed development in 2020. The increase in aviation service users at El Tari Kupang Airport is very high, this is evidenced by the frequent accumulation of passengers due to inadequate terminal and aircraft transport capacities. In order to become an airport with a high level of service satisfaction, the management of El Tari Airport must provide its best service to users.

Based on the description above, it is necessary to conduct research to find out how passengers' perceptions of services at El Tari Kupang Airport? Importance Performance? and find out whether the service variables are included in the basic factor group in the Kano model?. The limitation of the problem in this study is the passenger's perception of services at El Tari Kupang Airport (Subekti,2016).

2 RESEARCH METHODOLOGY

2.1 Research Stages

The research stages began with initial observation, data collection, data processing and analysis, to drawing conclusions and suggestions. This research starts from identifying problems that occur after making direct observations in the study area. This was done to determine problems that occurred in the study area. The study area and scope of problems to be discussed are also limited. The analysis stage is a follow-up after data processing is complete. The purpose of this stage is to understand and analyze the results of data processing in depth. The analysis is carried out by testing the validity and reliability of service quality, Importance Performance Analysis (IPA) is used to compare the extent to which the performance of an activity perceived by users or customers is compared to the level of satisfaction desired / felt, Gap Analysis (Pranidiwya, 2015). The difference or distance between the expectations or the level of interest of the passengers and the services received by the passengers results in service quality based on the perceptions of the passengers themselves and the Kano Model aims to categorize the product/ service attributes that are able to satisfy customer needs. The data and images of Kano's analysis used an interest classification diagram based on explicit and implicit importance classifications. Implicit interest is the interest obtained from the correlation between the interests of one another using the Spearman correlation

coefficient. Explicit interest is the interest expressed or determined directly by consumers (Wijaya,2011).

2.2 Data Collection

There are 4 stages of data collection methods, namely the first stage of the interview, namely the method of collecting data by asking and answering questions. The second stage is a questionnaire, which is a data collection method by compiling a written list of questions or questionnaires to respondents, making it easier to process data. The third stage is a literature study and the last is a research instrument, a research instrument used in the form of a list of questions or a questionnaire consisting of 35 questions about the importance of service quality at airports and 35 questions about the performance of service quality services at airports. Before the questionnaire is used, it is necessary to test the validity and reliability of the questionnaire with 100 respondents.

3 RESULT AND DISCUSSION

3.1 Determination of Number of Samples

The total population is calculated as the average number of passengers from 2014 to 2019, so that the total population used in this study is 335650 passengers. The sample size used in this study is :

$$N = \frac{335650}{335650 \cdot (0,1)^2} \\ = 99 \text{ rounded to } 100 \text{ samples}$$

3.2 Reliability and Validity Test

This study uses 35 service variables referred to in the Regulation of the Minister of Transportation Number PM 178 of 2015 concerning Airport Service User Service Standards. The items of the research variables were statistically tested to determine their validity and reliability. The Cronbach alpha coefficient value of a total of 35 interest-level variables is 0.937. The cronbach alpha coefficient value on all 35 question variables at the level of satisfaction/ performance is 0.960. A construct or variable is said to be reliable if it provides a Cronbach alpha value > 0,60. This means that the variables of the level of importance and satisfaction are reliable for use in research. The validity test was

performed by using Pearson correlation analysis in the SPSS program. This is done to determine the correlation of items / variables of importance level 1, 2, 3 and so on up to 35 to the total score of the level of importance. The value of r table for a sample size of 100, with a significance of 1% is 0.256. Table 1 below presents the value of the Pearson correlation coefficient on the 35 variables of the level of importance and level of satisfaction.

Based on table 1, it can be seen that the 35 variables of the level of importance and the level of satisfaction have a significant correlation at the 1% level. This means that all variables are valid and can be used in research.

Table 1: Pearson's Correlation Coefficient Value on 31 Interest Level Variables and Satisfaction Level.

Variable	R table Value	Level of Interest Correlation Coefficient	Satisfaction Level Correlation Coefficient	Validity
Variable 1	0.256	0.476*	0.442*	Valid
Variable 2	0.256	0.491*	0.575*	Valid
Variable 3	0.256	0.670*	0.677*	Valid
Variable 4	0.256	0.481*	0.535*	Valid
Variable 5	0.256	0.392*	0.536*	Valid
Variable 6	0.256	0.533*	0.525*	Valid
Variable 7	0.256	0.634*	0.542*	Valid
Variable 8	0.256	0.614*	0.545*	Valid
Variable 9	0.256	0.644*	0.630*	Valid
Variable 10	0.256	0.687*	0.687*	Valid
Variable 11	0.256	0.692*	0.692*	Valid
Variable 12	0.256	0.663*	0.663*	Valid
Variable 13	0.256	0.651*	0.651*	Valid
Variable 14	0.256	0.627*	0.627*	Valid
Variable 15	0.256	0.674*	0.674*	Valid
Variable 16	0.256	0.694*	0.694*	Valid
Variable 17	0.256	0.533*	0.533*	Valid
Variable 18	0.256	0.632*	0.632*	Valid
Variable 19	0.256	0.693*	0.693*	Valid
Variable 20	0.256	0.613*	0.613*	Valid
Variable 21	0.256	0.605*	0.605*	Valid
Variable 22	0.256	0.454*	0.454*	Valid
Variable 23	0.256	0.701*	0.701*	Valid
Variable 24	0.256	0.267*	0.267*	Valid
Variable 25	0.256	0.732*	0.732*	Valid
Variable 26	0.256	0.565*	0.565*	Valid
Variable 27	0.256	0.681*	0.681*	Valid

Variable 28	0.256	0.711*	0.711*	Valid
Variable 29	0.256	0.686*	0.686*	Valid
Variable 30	0.256	0.688*	0.688*	Valid
Variable 31	0.256	0.641*	0.641*	Valid
Variable 32	0.256	0.670*	0.670*	Valid
Variable 33	0.256	0.620*	0.620*	Valid
Variable 34	0.256	0.624*	0.624*	Valid
Variable 35	0.256	0.565*	0.565*	Valid

3.3 Interest Level Analysis

The questionnaire used uses a Likert scale 5. Each item/ variable is scored according to the answer from the respondent. A scale of 1 means unimportant and a scale of 5 means very important. There are 35 variables and 100 respondents used in the analysis of research data. The following table 2 presents the total value/ score and average of the 35 variables of importance level at El Tari Kupang Airport.

Table 2: Values/ Scores and Average Weights of 35 Variables of Interest Level at El Tari Kupang Airport.

No	Variable	Total Score	Average Y
1	Maintained and available cleanliness facilities at the airport terminal	475	4.75
2	Appropriate seating capacity in the waiting room	452	4.52
3	Adequacy of luggage service equipment	411	4.11
4	Availability of facilities for air circulation (AC, fan)	418	4.18
5	Sufficient airport terminal lighting/ lighting system	443	4.43
6	Availability and adequacy of the number of trolley	456	4.56
7	Checkin counters were clean and tidy	417	4.17
8	Sufficient number and area of check in counters	408	4.08
9	Public Information System (announcement) facility availability	416	4.16
10	Availability of facility flight progress display (FIDS)	413	4.13
11	Clarity of information from the public address system (signage)	474	4.74
12	Information center counter facilities that are easy to find and informative	443	4.43
13	The coolness and comfort of the passenger waiting room	440	4.4

Table 2: VALUES/Scores and Average Weights of 35 Variables of Interest Level at El Tari Kupang Airport (cont.).

No	Variable	Total Score	Average \bar{y}
14	The availability of complete and easy to find toilet facilities	416	4.16
15	Cleanliness and comfort of toilet facilities	413	4.13
16	Availability and adequacy of commercial areas (canteens/restaurants)	435	4.35
17	Availability of computer facilities for online ticket purchases	407	4.07
18	Availability and comfort of prayer rooms/ places of orship	416	4.16
19	Availability of facilities for charging electronic devices (charging)	413	4.13
20	Wi-Fi facilities and public internet access are available and functional	474	4.74
21	Availability of special room facilities for mothers and babies (nursery)	408	4.08
22	The availability of clean and comfortable children's playroom facilities	418	4.18
23	Availability of facilities for passengers with special needs	414	4.14
24	Availability of smoking room facilities (smooking area)	473	4.73
25	Availability of ATM and money changer facilities	409	4.09
26	Availability of lounge executive waiting room for special	417	4.17
27	The availability of adequate parking area facilities	414	4.14
28	Cleanliness and neatness of the appearance of the officers	420	4.2
29	Friendliness & ability of officers in serving	408	4.08
30	Availability of further transport information from the airport	417	4.17
31	Easy access and transportation from/to the airport	415	4.15
32	Cabin crew convey information during the flight, are responsive, skilled, friendly and well groomed and polite	472	4.72
33	The facilities provided on board are to serve passengers in good condition and clean	408	4.08
34	There is a vehicle parking space for 80% of the busy time passengers	417	4.17
35	Available facilities for getting on and off the plane (use of jet bridge)	414	4.14
Total		14964	149.64
		427.54	4.28

Based on table 2 above, it can be seen that the average value of the 35 level of interest variables ranges from 4.07 to 4.75. The variables are maintained and the availability of cleanliness facilities at the airport terminal, wifi facilities and public internet access that are available and functioning and the clarity of information on the public address system (signage) has the highest average value. This means that passengers consider this variable important to be provided by airports in serving passengers. While the variable availability of computer facilities for online ticket purchases is the variable with the lowest average value, this means that passengers do not consider this facility important in the service of El Tari Kupang airport. Overall, the average of the 35 research variables showed a value of 4.28. This means that 35 service variables have an important meaning for passengers in supporting service activities at airports.

3.4 Analysis of Satisfaction Level

The satisfaction level variable also consists of 35 items calculated using a Likert scale 5. Number 1 shows passengers who are not satisfied with the service, number 2 is not satisfied, number 3 means normal, number 4 shows satisfactory service and number 5 means that the service is very satisfying for passenger. Table 3 below presents the total value/score and average of 35 variables for the level of service satisfaction at El Tari Kupang Airport.



Figure 1: The Importance Performance Quadrant of El Tari Airport

Based on Figure 1, it can be seen that there are 3 service variables that are in quadrant 1. These variables are (1) variabel ke-2, suitability of seating capacity in the waiting room, (2) variabel ke-6, availability and adequacy of the number of trolley

and (3) variabel ke-21 , The availability of special room facilities for mothers and babies (nursery). The variables in quadrant 1 are important variables that must be given top priority for service improvement from El Tari Kupang Airport.

3.5 Gap Analysis (Gap)

Based on the analysis of the level of importance and level of satisfaction there is a gap between the two. This difference illustrates the distance that exists between the value of satisfaction/ performance and the value of importance. Table 3 below presents the difference/ gap between the average level of importance and satisfaction on each service variable at El Tari Kupang Airport.

Table 3: Difference / Gap between Interest Levels and Satisfaction of El Tari Kupang A irtport Service Variables.

Variable	Average Satisfaction Performance (X)	Average Interest (Y)	Difference / Gap
Variable 1	4.76	4.75	0.01
Variable 2	3.81	4.52	-0.71
Variable 3	3.55	4.11	-0.56
Variable 4	4.19	4.18	0.01
Variable 5	4.45	4.43	0.02
Variable 6	3.84	4.56	-0.72
Variable 7	4.2	4.17	0.03
Variable 8	3.95	4.08	-0.13
Variable 9	4.18	4.16	0.02
Variable 10	4.14	4.13	0.01
Variable 11	4.75	4.74	0.01
Variable 12	4.45	4.43	0.02
Variable 13	4.42	4.4	0.02
Variable 14	4.18	4.16	0.02
Variable 15	4.14	4.13	0.01
Variable 16	4.65	4.35	0.3
Variable 17	3.7	4.07	-0.37
Variable 18	4.2	4.16	0.04
Variable 19	4.14	4.13	0.01
Variable 20	4.75	4.74	0.01
Variable 21	4.35	4.08	0.27
Variable 22	3.55	4.18	-0.63
Variable 23	4.16	4.14	0.02
Variable 24	4.74	4.73	0.01
Variable 25	3.98	4.09	-0.11

Variable 26	4.18	4.17	0.01
Variable 27	4.15	4.14	0.01
Variable 28	4.21	4.2	0.01
Variable 29	4.09	4.08	0.01
Variable 30	4.19	4.17	0.02
Variable 31	4.16	4.15	0.01
Variable 32	4.73	4.72	0.01
Variable 33	4.09	4.08	0.01
Variable 34	4.18	4.17	0.01
Variable 35	3.78	4.14	-0.36

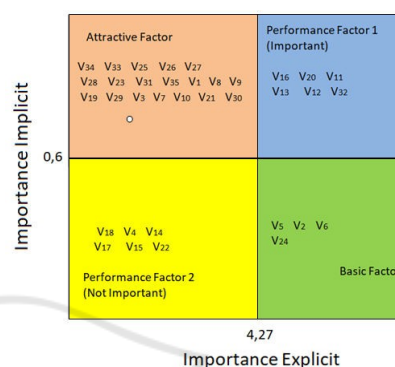


Figure 2: Classification of Implicit and Explicit Interest Variables at El Tari Kupang Airport.

Based on table 3, it can be seen that there are 35 service variables that have a negative gap value. This means that the gap between the value of satisfaction / performance and the value of the level of importance of passengers, not all of the attributes meet passenger expectations. The three variables with the highest negative value are variabel ke-2 The suitability of seating capacity in the waiting room is (-0.71), variabel ke-6 The availability and adequacy of the number of trolley is (-0.72), and variabel ke-22 The availability of clean and clean children's playroom facilities comfortable at (-0.63). This shows that passengers feel the highest dissatisfaction with the service aspects at El Tari Kupang Airport. Three variables with the smallest minimum value are var 25 Availability of ATM and money changer facilities (-0.11), variabel ke-8 Sufficient number and area of check-in counters (-0.13) and variabel ke-35 Available facilities for boarding and alighting) (-0.36). This shows that passengers feel low dissatisfaction with the service aspects at El Tari Kupang Airport. The results of the gap analysis can be concluded that based on passenger perceptions, the service variables at El Tari Kupang Airport are still below passenger expectations.

3.6 Analysis of Services with the Kano Model

The Kano model is used to determine the service variables included in the basic factors. If there are variables that fall into this category, the airport should make service improvements so that it can achieve passenger satisfaction. The level of implicit importance is obtained from the correlation coefficient between variable items 1, 2, 3 and so on up to 35 on the total score of the level of importance. Spearman correlation in the SPSS program is used to calculate the value of the implicit importance.

There are 5 service variables that are in performance group 1, namely: (1) variabel ke-11, clarity of information from the public address system (signage), (2) variabel ke-12, information center counter facilities that are easy to find and informative, (3) variabel ke-13, Coolness and the comfort of the passenger waiting room, (4) Variabel ke-20, Wi-Fi facilities and public internet access that are available and functioning, and (5) variabel ke-32, cabin crew delivers information during the flight, responsive, skilled, friendly and well-groomed and polite. Based on the canoe model, it can be seen that the variables in the basic factor group are variables that are basic needs that must be met by El Tari Kupang Airport. Apart from the variables in the basic factor group, El Tari Airport must also pay attention to the service variables in the performance group 1 (important).

If the variables in this group are met, El Tari Airport can increase passenger satisfaction, and vice versa, if not met, it can reduce passenger satisfaction.

4 CONCLUSION

Based on the results of data analysis, it can be concluded that:

1. Passenger perceptions of service quality at El Tari Kupang Airport indicate that overall the satisfaction variable is in the normal classification with an average value of 4.20 while the interest variable is in the important classification with an average value of 4.28
2. There are 3 service variables at El Tari Airport which have the highest negative gap value, the highest is Variabel ke- 2. The suitability of seating capacity in the waiting room is (-0.71), Variabel ke- 6 The availability and adequacy of the number of trolley is (-0.72), and Variabel ke-22. The availability of clean and comfortable children's playroom facilities of (-0.63). This high

gap means that the 3 service variables have not met passenger expectations.

3. The value of the passenger satisfaction index is 84.85%, which means that based on passenger perceptions, the services provided by El Tari Airport are good (good),
4. There are 3 service variables that require the main priority of service improvement from El Tari Kupang Airport, namely Variabel ke-2, suitability of seating capacity in the waiting room , Variabel ke-6, Availability and adequacy of the number of trolley and Variabel ke-21, the availability of special room facilities for mothers and babies (nursery)
5. There are 5 variables in the basic factor group, namely: (1) Variabel ke-1, Maintained and available cleanliness facilities at the airport terminal, (2) Variabel ke-2, suitability of seating capacity in the waiting room, (3) Variabel ke-5, terminal lighting Sufficient airport, (4) Variabel ke- 6, Availability and adequacy of the number of trolley, and (5) Variabel ke-24, Availability of smoking room facilities (smoking area).

REFERENCES

- Miro, "Fidel. *Introduction to the Transportation System*", Erlangga Publisher, Jakarta, 2012.
- Frans, John Hendrik, Harnen Sulistio and Achmad Wicaksono, "Assessment of Capacity, Service and Development Strategy of El Tari Kupang Airport", J-PAL Vol 5 No. 2 pages 44-53, 2014.
- Barata Singgih. R. (2020, January 6), "Re: El. Kupang Dance Opens Selection Commercial", <https://ekonomi.bisnis.com/read/20200106/98/1187366/bandara-el-tari-kupang-buka-seleksi-commercial>, March 27, 2020.
- Subekti, Sitti, "Fulfillment of Service Quality at H. Hasan Ende Airport to Increase Passenger Satisfaction, Transportation Research and Development Agency", 2016.
- Pranidiwya, Wena Anggana and Miming Miharja, "Passenger Perception of Airport Domestic Departure Terminal Service Aspect (Case Study: Airport Soekarno-Hatta International Air)", 2015
- Wijaya, Tony, "Service Quality Management", PT Index, Jakarta, 2011.