International Journal of Academic Engineering Research (IJAER)
ISSN: 2643-9085
Vol. 9 Issue 2 February - 2025, Pages: 1-9

The Development of Buntu Kunik Airport for Toraja Tourism

Misbahuddin[1*], Mirjayadi L[2], Hakzah[3], M. Jabir Muhammadiah[4], and Muh Arifin[5]

[1,2.3.4] Department of Civil Engineering, Universitas Muhammadiyah Parepare, 91112 Indonesia.
[*] *Corresponding author: umpar.misbah@gmail.com*

Abstract: *The development of Buntu Kunik airport in Tana Toraja Regency, South Sulawesi - Indonesia, is expected to further facilitate access to destinations that can advance the tourism sector in the area. The purpose of the study was to analyze the real impact of airport development on the tourism industry and to determine the effect of existing facility support on the tourism industry. This study uses a quantitative method based on a survey of 200 respondents, analyzed using the importance performance analysis method, customer satisfaction index and servqual analysis. The results of the importance performance analysis with a level of suitability of interests to performance of 92.57%, the customer satisfaction index value obtained a value of 88.56%. In the servqual analysis, the largest gap value was -6.86, which shows that the use of airport transportation facilities still has shortcomings, namely the use of travel transportation is still unsafe and the time schedule to the object of tourist locations is still changing and needs improvement.*

Keywords: Airport, Importance Performance Analysis, Customer Satisfaction Index, Servqual Analysis.

1. INTRODUCTION

Buntu Kunik Airport, is an airport located in Tana Toraja Regency, South Sulawesi - Indonesia. It is a very important airport in the provision of air transportation services. Airports play a role as the main entrance for air transportation, so it is necessary to manage goods and passengers safely, effectively, and efficiently according to international standards [1]. In the tourism sector, airports are the gateway to tourist destinations. This access is one of the three parts of the tourism ecosystem program that has been determined, namely accessibility, amenities, and attractions in accordance with the Ministry of Tourism of the Republic of Indonesia No. 10 of 2009 [2]. Quality perception refers to the evaluation carried out by consumers of the overall superiority of a product or service based on its functional performance [3].

Research on the level of satisfaction and expectations of service users is widely used, the results can be used as a control over the quality of services provided. This assessment of user satisfaction level can be carried out by IPA, CSI, and Servqual analysis methods [4].

Importance–Performance Analysis (IPA) is a simple and useful technique for identifying the attributes of a product or service that are most preferred in need of improvement. In the field of transportation, IPA has been widely adopted for the assessment of the quality of public transportation services and transportation facilities [5]. IPA is used to identify segments of tourists who have different perceptions of the importance and performance of various characteristics of destinations [6]. Two dimensional IPA grids display the results of an evaluation of the importance and performance of each relevant attribute [7]. Data from customer satisfaction surveys are typically used to build a two-dimensional matrix, where the performance of the satisfaction attribute is depicted along the x-axis, and the importance of the satisfaction attribute is depicted along the y-axis [8]. Using the average score as a crosshair, the attribute can be set to one of the four quadrants [9]. The application of IPA to generate managerial actions has been used in various fields including tourism [10] The results of IPA can provide information on the allocation of more strategic conservation resources [11]. Furthermore, this study also uses the CSI method. Adapted from the American Customer Satisfaction Index (ACSI), CSI is a measure of how the products and services provided by a company meet or exceed customer expectations. [12]. Customer satisfaction is an important element of business strategy that influences post-purchase behavior [13]. Within this general framework, this study is indeed the first to present a global CSI for air travel, taking into account that the passenger experience is a series of services related to departure airport services, airline services and arrival airport services [14].

The servqual model is commonly used to assess the quality of services in various sectors, including higher education institutions [15]. The most commonly used measure of service quality is the Servqual scale [16]. Servqual uses dual measurement to detect expected service and perceived service [17]. To help service providers identify their strengths and weaknesses, the most widely accepted method of measuring service quality is the SERVQUAL model [18]. This model identifies five main dimensions that play an important role in evaluating customer perceptions of service quality [19]. SERVQUAL has been used extensively to measure customer satisfaction and service quality in various sectors, including the aviation industry [20]. ServQual provides an index that is calculated through the difference between the level of perception and expectation [21]. Cronbach's alpha coefficient ranges between 0.91 and 0.87 for the five dimensions of SERVQUAL, thus supporting high reliability [22].

This study aims to analyze the influence of airport facility support on tourist interest in visiting using SPSS software with 3 methods, namely: IPA, CSI and Servqual analysis.

2. METHODOLOGY

The primary data used in this study is the data from the results

of a questionnaire that was distributed to each airport user with a total of 200 respondents. The research was carried out in March – June 2024. The secondary data used in this study was obtained directly from the Ministry of the Directorate General of Civil Aviation, UPBU class III Pong Tiku Tana Toraja office.

After the required data has been collected, the next stage is data processing. In this study, the data processing technique used is quantitative data processing with a descriptive approach. Quantitative data processing is defined as data values in the form of calculations or numbers.

The data obtained were then analyzed using the SPSS Version 25 application. The data analysis carried out was the validity and reliability test, Importance Performance Analysis (IPA), Costumer Satisfaction Index, and analisis nilai Servqual. The equations used in the data analysis are:

a. Validity Test

$$r_{xy} = \frac{n(\sum xy)-(\sum x)(\sum y)}{\sqrt{[n(\Sigma x^2)-(\Sigma x)^2\ [[n(\sum y^2)-(\sum y)^2]]}} \quad (1)$$

Where rxy = correlation coefficient between X and Y, n = number of respondents, x = score of each statement from each respondent, and y = total score of all statements from each respondent

b. Reliability Test

$$r = [\frac{k}{(k-1)}]\ [1 - \frac{\sum \sigma b^2}{\sigma t^2}] \quad (2)$$

Where r = Instrument reliability, k = number of questions or number of questions, σb2 = number of grain variants, σ12 = total variant

c. *Importance Performance Analysis* (IPA)

1. Calculating the Value of Conformity Between the Level of Interest and the Level of Performance

$$TKi = \frac{Xi}{Yi} \times 100\% \quad (3)$$

Where *TKi* = Respondent's suitability level, Xi = Company performance appraisal score, and Yi = Importance level assessment score

The category of the level of suitability of interest to performance is shown in Table 1

Table 1. Category of the level of suitability of interests to Performance

Conformity level	Conformance range (%)
Perfect fit	80-100
Appropriate	70-79
Quite suitable	60-69
Less suitable	50-59

2. Cartesian diagram

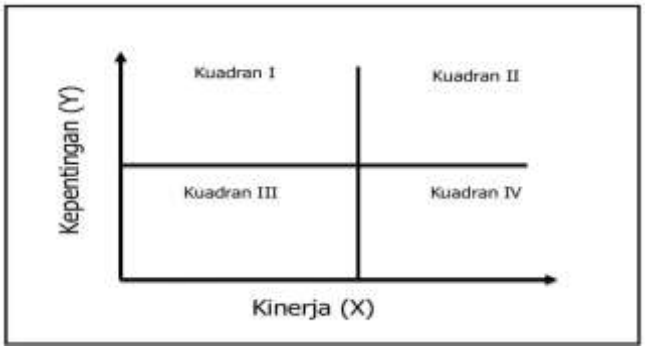

Fig 1. Cartesian diagram of Importance- Performance Analysis
(Source: Suhendra, A and Prasetyanto, Dwi)

The following is an explanation of each quadrant in the Cartesian diagram:

a. Quadrant I (Concentrate These) These are regions that contain factors that are considered important by customers, but inreality these factors are not in line with customer expectations (the level of satisfaction obtained is still low). The variables included in this quadrant must be improved
b. Quadrant II (Keep Up The Good Work) This is an area that contains factors that are considered important by customers, and factors that customers consider to be in accordance with what they feel so that the level of satisfaction is relatively higher. The variables included in this quadrant must be maintained because all of these variables make the product or service superior in the eyes of customers
c. Quadrant III (Low Priority) This is an area that contains factors that are considered less important by customers, and in fact their performance is not very special. The increase in the variables included in this quadrant can be reconsidered because the effect on the perceived benefits by customers is very small.
d. Quadrant IV (Possible Overkill) This is an area that contains factors that are considered less important by customers, and are perceived as excessive. The variables included in this quadrant can be reduced so that the company can save costs.

Here's the equation for the Cartesian diagram:

$$\overline{X} = \frac{\Sigma Xi}{n} \qquad \overline{Y} = \frac{\Sigma Yi}{n} \quad (4)$$

Where X = average score of the work rate, Y = average score of the Importance level, ∑ xi = total number of performance scores, ∑yi = total number of interest scores, and n = number of respondents

Furthermore, X (the average of the average performance level score) and 丄 (the average of the average importance level score) are calculated. The formula used is as follows:

= =

$$X = \frac{\Sigma_i^n=1\ Xi}{k} \qquad Y = \frac{\Sigma_i^n=1\ Yi}{k} \quad (5)$$

Where K = number of attributes/service statements in questionnaire given to respondents

d. *Costumer Satisfaction Index* (CSI)

1. Determining *Mean Importance Score* (MIS) and *Mean Satisfaction Score* (MSS).

$$MIS = \frac{\sum_i^n - Yi}{n} \quad MMS = \frac{\sum_i^n - Xi}{n} \quad (6)$$

Where N = number of respondents, Yi = value of interest of the ith Attribute, and Xi = I attribute performance value

2. Make *Weight Factors* (WF)

$$Wfi = \frac{MISi}{\sum^{P_i-1} MISi} \times 100\% \quad (7)$$

Where P = number of interest attributes (k=23), I = attribute of the marketer's mix nth to i

3. Make *Weight Score* (WS)

$$WSi = WFi \times MSSi \quad (8)$$

Where i = ith marketing mix attribute

4. Determining *Costumer Satisfaction Index* (CSI)

$$CSI = \frac{\sum^{P}_{i-1} WSi}{5} \times 100\% \quad (9)$$

The Customer Satisfaction Index (CSI) criteria are presented in Table 2.

Table 2: CSI Criteria

Index Value (%)	CSI Criteria
81,00-100,00	Highly satisfied
66,00-80,99	Satisfied
51,00-65,99	Quite satisfied
35,00-50,99	Less satisfied
0,00-34,99	Dissatisfied

e. Calculating Servqual Values

Servqual is built on the comparison of two main factors, namely the customer's perception of the service that the customer actually receives (perceived service) and the service that is actually expected, Perceived Service and expected service are used in the concept of servqual to calculate the existing gap [23]. Here is the equation:

$$G = P - E \quad (10)$$

Where G = Gap, P = *Perceived Service*, and E = *Expected Service*

In comparing expectations and performance, a gap is created (discrepancies). This gap is called a gap. There are five gaps in service quality that allow the failure of service delivery namely: The gap between perceived services from perceived or received and expected services (service gap). In this study, a score of 1-5 is used, the gap between confidence and expectations explains the level of satisfaction, the lowest satisfaction occurs if the performance is far below expectations, namely when the minimum performance (1) while the maximum expectation (5), the value is 1-5 = -4. On the other hand, the highest satisfaction occurs when the performance far exceeds expectations, namely when the maximum performance (5) while the minimum expectation (1), the value is 5±1 = 4 [24]. The satisfaction range or gap difference is -4 to 4 with the following intervals:

Table 3: Gap Difference Measurement Interval

Interval	Classification	Quality of Service
(-4) - (-2,4)	Very Low	Very Not Good
(>-2,4) - (-0,8)	Low	Not Good
(>-0,8) - (0,8)	Keep	Pretty Good
(>0,8) - (2,4)	Tall	Good
(>2,4) - (4)	Very High	Excellent

Source: Parasuraman, 1990 in Sinollah and Masruro, 2019

3. RESULT AND DISCUSSION

The general description of the respondents describes the character of the respondents based on age and gender. An overview of respondents is presented in Table 4. and Table 5.

Table 4: Characteristics of respondents by age

Age Range	Man	Woman
17-26	22	33
26-35	40	12
36-45	14	20
46-55	17	23
56-65	15	4

Source: Data processing results, 2024

The distribution of respondents by age showed that at the age of 17-26 years women were more numerous, at the age of 26-35 years men were more dominant, while at the ages of 36 - 45 and 46 -55 years women were slightly more. At the age of 56-65 years, men are more

Table 5: Characteristics of respondents by type gender

Gender	Sum
Man	108
Woman	92

a. Validity Test

The samples tested amounted to 200 samples, so the r table used was 0.138. The results of the validity test obtained the result that all indicators were declared valid because the r value was calculated > r table. The average results of validity testing can be seen in Table 6.

Table 6: Validity Test Results

No	Statement	r-Calculate	r-Calculate	r-Table	exp
1	Cleanliness at the airport	0,228	0,257	0,138	Valid
2	Attendants guard passengers' luggage	0,231	0,408	0,138	Valid
3	The information easy to find	0,190	0,294	0,138	Valid
4	Clear notification departure and arrival information	0,261	0,279	0,138	Valid
5	Visitor safety at the airport is ensured with on-duty security	0,218	0,192	0,138	Valid
6	Quick baggage collection service minimizes wait time	0,237	0,175	0,138	Valid
7	Efficient service eliminates long queues.	0,253	0,235	0,138	Valid
8	Clear flight notifications help visitors prepare efficiently.	0,245	0,478	0,138	Valid
9	Effortless booking and check-in streamline travel.	0,291	0,181	0,138	Valid
10	Passenger and baggage inspections ensure safety.	0,423	0,328	0,138	Valid
11	Airport lounge facilities highly comfortable.	0,237	0,308	0,138	Valid
12	The available internet/WiFi facilities highly useful.	0,310	0,250	0,138	Valid
13	The airport's toilet facilities functional and comfortable.	0,349	0,180	0,138	Valid
14	The airport offers clean and comfortable restaurants.	0,343	0,205	0,138	Valid
15	Adequate health facilities provide essential support for ill visitors	0,281	0,363	0,138	Valid
16	Money changer facilities provide easy cash and currency exchange.	0,624	0,338	0,138	Valid
17	The available prayer facilities comfortable and easy to use	0,199	0,258	0,138	Valid
18	Easily accessible and well-functioning charging facilities available.	0,350	0,235	0,138	Valid
19	Clean water facilities available and safe for consumption.	0,270	0,141	0,138	Valid
20	Parking space	0,310	0,337	0,138	Valid
21	Adequate parking spaces available to accommodate visitor vehicles.	0,385	0,349	0,138	Valid
22	A well-designed parking angle allows easy vehicle maneuvering.	0,268	0,288	0,138	Valid
23	Clear entry and exit signs ensure easy parking.	0,228	0,310	0,138	Valid
24	The parking area is conveniently close.	0,419	0,479	0,138	Valid
25	CCTV surveillance ensures vehicle safety in the airport parking area.	0,319	0,229	0,138	Valid
26	Airport travel to tourist spots easily accessible.	0,315	0,279	0,138	Valid

27	Airport transportation to tourist spots efficient and punctual	0,235	0,388	0,138	Valid
28	Travel transportation from the airport to tourist spots comfortable.	0,261	0,457	0,138	Valid
29	Travel transportation from the airport to tourist spots safe	0,281	0,512	0,138	Valid
30	Drivers provide excellent information about tourist locations	0,253	0,209	0,138	Valid
31	Flexible departure schedules for airport travel to tourist spots.	0,250	0,296	0,138	Valid
32	The fare matches the service quality for airport travel to tourist spots.	0,260	0,316	0,138	Valid

Source: SPSS data processing results, 2024

Meanwhile, the reliability test obtained reliable results because *the value of Cronbach's alpha* was greater than 0.6 as shown in Table 7

Table 7: Reliability Test Results

No	Attribute	Cronbach' Alpha calculation value	r-Table Values	Reliability Test
1	Performance level	0,652	0,60	Reliabel
2	Level of importance	0,646	0,60	Reliabel

Source: SPSS data processing results, 2024

From the results of the reliability test above, it can be concluded that the performance attributes and interest attributes are declared reliable. Because based on the description of each attribute of the r value alpha > the r value of the table, all research attributes are declared reliable

a. Calculation Results *of Importance Performance Analysis* (IPA)

1. Attribute Conformance Level Analysis

In this study, there is a comparison between two sub-variables, namely the level of importance and the level of performance. The level of conformity has a meaning, namely the result of comparing the performance score with the importance score.

$$Tki = \frac{Xi}{yi} \times 100\%$$

Table 8: Results of attribute conformance level calculation

Attribute	Expectations	Perception	Conformance Rate (%)
p1	901	895	100
p2	891	893	99,78
p3	880	923	95,34
p4	852	880	96,82
p5	887	897	98,89
p6	887	904	98,12
p7	859	895	95,98
p8	884	896	98,66
p9	819	910	90,00
p10	809	912	88,71
p11	849	887	95,72
p12	880	929	94,73
p13	847	860	98,49
p14	835	870	95,98
p15	855	797	107,28
p16	791	878	90,09
p17	865	848	102,00
p18	863	879	98,18
p19	838	814	102,95
p20	867	909	95,38
p21	847	855	99,06
p22	841	887	94,81
p23	842	880	95,68
p24	856	892	95,96
p25	835	895	93,30
p26	774	916	84,50
p27	742	916	81,00
p28	719	885	81,24
p29	599	859	69,73
p30	710	875	81,14
p31	658	905	72,71
p32	680	898	75,72

Source: Excel data processing resultsfbn, 2024

2. Total level of conformity (total TKI) between X (performance) and Y (expectation)

$\sum Xi = 26232$ $\sum Yi = 28339$

$$Tki\ Total = \frac{\sum Xi}{\sum Yi} X\ 100\%$$

$$Tki\ Total = \frac{26232}{28339} \times 100\%$$

Tki Total = 92,57%

3. Calculation of average scores, performance levels

and expectations

Average score of performance (X) and expectations (Y)

$$X = \frac{\Sigma_i^n=1\ Xi}{k} \qquad Y = \frac{\Sigma_i^n=1\ Yi}{k}$$
$$= \frac{131,16}{32} \qquad = \frac{141,70}{32}$$
$$= 4,09 \qquad = 4,42$$

The result of calculating the average score of the overall performance level and expectation attributes for the performance level (X) is 4.12 while for the expectation (Y) is 4.47.

4. Cartesian diagram

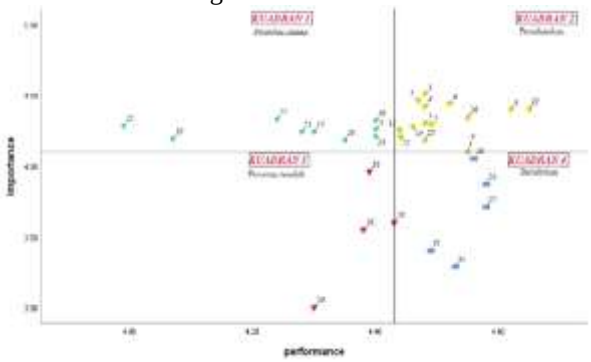

Fig 2. Cartesian diagram of science

Based on the cartesian digram, it can be classified or grouped by quadrant for each item studied.

a) Quadrant 1 includes Item 3 (Information need to be easy to find), 13 (Toilet facilities are well functioning and comfortable), 14 (Availability of restaurants at the airport that are clean and comfortable), 15 (Adequate health facilities for visitors), 17 (Money exchange facilities provide youth for visitors), 18 (Availability of charging facilities that are easy to reach), 19 (Availability of clean water facilities that are decent), 21 (Availability of adequate parking spaces), 23 (Availability of entrance and exit signs for easy parking), which contains attributes that are considered important by airport users, but in reality these attributes are not in accordance with consumer expectations.

b) Quadrant 2 includes Item 1 (Cleanliness at the airport is observed), 2 (Passengers take care of passengers' baggage), 4 (Notification of departure and arrival information of the airline clearly), 5 (Good visitor security and security is maintained), 6 (Good baggage collection service), 7 (Service is on duty well and does not require long queues), 8 (Notification of departure and arrival information of the airline clearly), 9 (Good ticket reservation service until check-in), 11 (Airport lounge facilities are very comfortable), 12 (Wifi facilities are very helpful), 20 (Spacious parking space), 22 (Parking angle makes it easy to maneuver vehicles), 24 (Distance to the parking space), 25 (Vehicle safety in the Airport Parking Monitored CCTV), which contains attributes that are considered important by consumers and the implementation of these attributes has been in accordance with their perception. The attributes included in this quadrant must be maintained because all of these attributes are superior products/services in the eyes of customers.

c) Quadrant 3 includes Item 16 (Exchange facility money gives youth to visitors), 28 (Using travel transportation during the trip from the airport to the tourist location is very comfortable), 29 (Using travel transportation from the airport to the tourist location is safer), 30 (The service from the driver in providing information about the tourist location is very good), which contains attributes that are considered less important by consumers and in fact the implementation is not very special. The increase in attributes included in this quadrant can be reconsidered because the effect on the benefits perceived by airport users is very small.

d) Quadrant 4 includes items 10 (Inspection services for passengers and goods to carry out security during visits), 26 (Travel transportation services from the airport to young tourist locations found), 27 (Travel transportation services during the trip to tourist sites efficiently and on time), 31 (Travel transportation departure schedules from mrnuju airport Flexible tourist locations), 32 (Fares paid in accordance with the services received by travel transportation users), which contain attributes that are considered less important by airport users and felt to be too excessive.

b. Results of customer *satifaction index* (CSI) calculation

$$MIS = \frac{\sum_i^N - 1 X_i}{N} \text{ and } MSS = \frac{\sum_i^N - 1 Y_i}{N}$$

Where n = number of respondents, Yi = value of interest of the attribute, Xi = attribute performance value

From the percentage of MIS value per attribute to the total MIS of all attributes with the following formula:

$$WF = \frac{MIS_i}{\sum^p{}_{i\_1}} x\ 100\%$$

Where p = number of importance attributes, I = ith attribute

The following is the multiplication between *the Weight factor* (WF) and the average satisfaction level (MSS) *Mean statisfaction score* with the following formula:

$$WS = WF \times MSS$$

Table 9: Results of customer *satifaction index* (CSI) calculation

NO	MIS (ii)	MSS (iii)	WF (iv) = (ii / ∑) * 100%	WS (v) = (iv*iii)
1	4,51	4,48	0,034	0,15
2	4,46	4,47	0,034	0,15
3	4,40	4,62	0,034	0,15
4	4,26	4,40	0,032	0,14
5	4,29	4,49	0,033	0,15
6	4,44	4,52	0,034	0,15

7	4,30	4,48	0,033	0,15
8	4,42	4,48	0,034	0,15
9	4,10	4,55	0,031	0,14
10	4,05	4,56	0,031	0,14
11	4,25	4,44	0,032	0,14
12	4,40	4,65	0,034	0,16
13	4,24	4,30	0,032	0,14
14	4,18	4,35	0,032	0,14
15	4,28	3,99	0,033	0,13
16	3,96	4,39	0,030	0,13
17	4,33	4,24	0,033	0,14
18	4,32	4,40	0,033	0,14
19	4,19	4,07	0,032	0,13
20	4,34	4,55	0,033	0,15
21	4,24	4,28	0,032	0,14
22	4,21	4,44	0,032	0,14
23	4,21	4,40	0,032	0,14
24	4,28	4,46	0,033	0,15
25	4,18	4,48	0,032	0,14
26	3,87	4,58	0,030	0,14
27	3,71	4,58	0,028	0,13
28	3,60	4,43	0,027	0,12
29	3,00	4,30	0,023	0,10
30	3,55	4,38	0,027	0,12
31	3,29	4,53	0,025	0,11
32	3,40	4,49	0,026	0,12
SUM∑	131,16	141,70		4,43
Custumer Satisfaction Index (CSI)				88,56%

Source: CSI data processing, 2024

CSI calculation results

CSI = $\frac{\sum ws}{5}$ x 100%

Where ∑ws = total value, 5 = maximum value on ni

CSI = $\frac{4,43}{5}$X 100%

= 88,56%

The results of the calculation obtained by stages *The Customer Statisfaction Index* (CSI) is 88.56 according to Table 9.

c. Servqual analysis

Table 10: Servqual Analysis Results

Question Item	Performance		Hope		GAP (Performance-expectation)
	Sum	Average	Sum	Average	
Airport services					
P1	901	4,51	895	4,48	0,03
P2	891	4,46	893	4,47	-0,01
P3	880	4,40	923	4,62	-0,22
P4	852	4,26	880	4,40	-0,14
P5	857	4,29	897	4,49	-0,20
P6	887	4,44	904	4,52	-0,09
P7	859	4,30	895	4,48	-0,18
P8	884	4,42	896	4,48	-0,06
P9	819	4,10	910	4,55	-0,46
P10	809	4,05	912	4,56	-0,52
SUM	8639	43,195	9005	45,025	-1,83
Airport facilities					
P11	849	4,25	887	4,44	-0,19
P12	880	4,40	929	4,65	-0,24
P13	847	4,24	860	4,30	-0,06
P14	835	4,18	870	4,35	-0,18
P15	855	4,28	797	3,99	0,29
P16	791	3,96	878	4,39	-0,44
P17	865	4,33	848	4,24	0,09
P18	863	4,32	879	4,40	-0,08
P19	838	4,19	814	4,07	0,12
SUM	7623	38,115	7762	38,81	-0,695
Airport parking space					
P20	867	4,34	909	4,55	-0,21
P21	847	4,24	855	4,28	-0,04
P22	841	4,21	887	4,44	-0,23
P23	842	4,21	880	4,40	-0,19
P24	856	4,28	892	4,46	-0,18
P25	835	4,18	895	4,48	-0,30
SUM	5088	25,44	5318	26,59	-1,15
Airport transportation modes					
P26	774	3,87	916	4,58	-0,71
P27	742	3,71	916	4,58	-0,87
P28	719	3,60	885	4,43	-0,83
P29	599	3,00	859	4,30	-1,30
P30	710	3,55	875	4,38	-0,83
P31	658	3,29	905	4,53	-1,24
P32	680	3,40	898	4,49	-1,09
SUM	4882	24,41	6254	31,27	-6,86

Table 11. Total value of GAP

Quality Dimensions	Performance		Hope		GAP
	Total	Ave rage	Total	Ave rage	
Airport Services	8639	43,195	9005	45,025	-1,83
Airport Facilities	7623	38,115	7762	38,81	-0,695
Airport parking spaces	5088	25,44	5318	26,59	-1,15
Airport transportation modes	4882	24,41	6254	31,27	-6,86

Source: Servqual data processing results, 2024

a) The airport service quality dimension shows an average difference between performance and expectations of -1.83, which indicates a low service quality, especially in the inspection of goods and passengers which are still considered inadequate.
b) The airport facility quality dimension shows an average performance and expectation difference of -0.695, which indicates that the quality of facilities is in the moderate or fairly good category, especially in money exchange facilities that provide convenience.
c) The airport parking space quality dimension shows an average performance and expectation difference of -1.15, which indicates a low quality of parking space, especially related to the presence of CCTV cameras which are still considered lacking.
d) The quality dimension of airport transportation modes shows an average difference between performance and expectations of -6.86, which indicates a very low quality of transportation modes, especially related to the uncertainty of travel departure schedules and the use of travel transportation is still considered unsafe.

4. CONCLUSION

Based on the results of the analysis using the Importance Performance Analysis (IPA) method, there are 9 attributes that fall into the main priority category, 14 attributes that need to be maintained, 4 attributes with low priority, and 5 attributes that are considered excessive. The calculation of the Customer Satisfaction Index (CSI) shows that the user satisfaction level of Buntu Kunik Airport reaches 88.56%, which is included in the very satisfied category. However, servqual analysis shows that there is a negative difference between performance and expectations in various dimensions, including service quality, facilities, parking spaces, and modes of transportation. The dimension of transportation mode shows the most significant difference (-6.86), which belongs to the very low category. These findings indicate the need to improve performance in all dimensions of service to meet user expectations and improve service quality at Buntu Kunik Airport Toraja, Indonesia.

5. REFERENCES

[1] M. Waris and M. Masruq, "Potensi Pengembangan Bandar Udara H. Aroeppala dalam upaya mendukung Pariwisata di Provinsi Sulawesi Selatan," *Kurva S J. Keilmuan dan Apl. Tek. Sipil*, vol. 10, no. 1, p. 12, 2022, doi: 10.31293/teknikd.v10i1.6414.
[2] "undang-undang-nomor-10-tahun-2009-tentang-kepariwisataan.pdf."
[3] M. Z. Muttaqin, I. Ramanda, and A. K. Zaini, "Analysis of Trans Metro Pekanbaru ' s Operational Score in Pandemic of Covid-19," vol. 26, no. 1, pp. 72–78, 2024.
[4] D. Paddeu, G. Fancello, and P. Fadda, "An experimental customer satisfaction index to evaluate the performance of city logistics services," *Transport*, vol. 32, no. 3, pp. 262–271, 2017, doi: 10.3846/16484142.2016.1146998.
[5] V. A. Tuan, N. Van Truong, S. Tetsuo, and N. N. An, "Public transport service quality: Policy prioritization strategy in the importance-performance analysis and the three-factor theory frameworks," *Transp. Res. Part A Policy Pract.*, vol. 166, no. August, pp. 118–134, 2022, doi: 10.1016/j.tra.2022.10.006.
[6] T. Lankia, R. Venesjärvi, and E. Pouta, "Importance-performance analysis of the fishing tourism service structure: Recreational anglers' preferences on the remote salmon river of Teno in Finland," *Fish. Res.*, vol. 254, no. July, 2022, doi: 10.1016/j.fishres.2022.106425.
[7] J. Abalo, J. Varela, and V. Manzano, "Importance values for Importance-Performance Analysis: A formula for spreading out values derived from preference rankings," *J. Bus. Res.*, vol. 60, no. 2, pp. 115–121, 2007, doi: 10.1016/j.jbusres.2006.10.009.
[8] V. Elvia, A. Yulanda, A. Frinaldi, and N. Eka Putri, "Perjudian Online di Era Digital: Analisis Kebijakan Publik Untuk Mengatasi Tantangan dan Ancaman," *J. Ilmu Sos. dan Hum.*, vol. 1, no. 3, pp. 111–119, 2023, [Online]. Available: https://isora.tpublishing.org/index.php/isora
[9] C. C. Tseng, "An IPA-Kano model for classifying and diagnosing airport service attributes," *Res. Transp. Bus. Manag.*, vol. 37, no. May, p. 100499, 2020, doi: 10.1016/j.rtbm.2020.100499.
[10] J. Esmailpour, K. Aghabayk, M. Abrari Vajari, and C. De Gruyter, "Importance – Performance Analysis (IPA) of bus service attributes: A case study in a developing country," *Transp. Res. Part A Policy Pract.*, vol. 142, no. May, pp. 129–150, 2020, doi: 10.1016/j.tra.2020.10.020.
[11] S. Suhardono *et al.*, "Community-centric importance and performance evaluation of Human-Orangutan Conflict management in Aceh, Indonesia," *Trees, For. People*, vol. 15, no. February, p. 100510, 2024, doi: 10.1016/j.tfp.2024.100510.
[12] A. Nurmahdi, "Customer satisfaction index for transport services," *Int. J. Econ. Bus. Adm.*, vol. 7, no. 1, pp. 192–199, 2019, doi: 10.35808/ijeba/205.
[13] A. Tiganis, E. Grigoroudis, and P. Chrysochou,

"Customer satisfaction in short food supply chains: A multiple criteria decision analysis approach," *Food Qual. Prefer.*, vol. 104, no. October 2022, p. 104750, 2023, doi: 10.1016/j.foodqual.2022.104750.

[14] C. Munoz, H. Laniado, and J. Córdoba, "Development of a robust customer satisfaction index for domestic air journeys," *Res. Transp. Bus. Manag.*, vol. 37, no. 65, p. 100519, 2020, doi: 10.1016/j.rtbm.2020.100519.

[15] W. Wider *et al.*, "Service quality (SERVQUAL) model in private higher education institutions: A bibliometric analysis of past, present, and future prospects," *Soc. Sci. Humanit. Open*, vol. 9, no. January, 2024, doi: 10.1016/j.ssaho.2024.100805.

[16] N. M. Stefano, N. Casarotto Filho, R. Barichello, and A. P. Sohn, "A fuzzy SERVQUAL based method for evaluated of service quality in the hotel industry," *Procedia CIRP*, vol. 30, pp. 433–438, 2015, doi: 10.1016/j.procir.2015.02.140.

[17] D. B. Palencia, J. M. Jiménez, E. L. Castro, R. R. Molina, and G. P. Sánchez, "Ordered Weighted Average Operators in the SERVQUAL and SERVPERF Scales," *Procedia Comput. Sci.*, vol. 203, no. 2021, pp. 456–460, 2022, doi: 10.1016/j.procs.2022.07.061.

[18] A. Pabedinskaitė and V. Akstinaitė, "Evaluation of the Airport Service Quality," *Procedia - Soc. Behav. Sci.*, vol. 110, pp. 398–409, 2014, doi: 10.1016/j.sbspro.2013.12.884.

[19] T. E. Gowele, M. J. Mwendapole, and W. J. Kileo, "Structural Assessment of the SERVQUAL Model on Passengers ' Satisfactions at Julius Nyerere International Airport (JNIA) in Tanzania," vol. 8, no. 4, pp. 57–66, 2023.

[20] A. O. Adeniran and S. O. Fadare, "Relationship between Passengers' Satisfaction and Service Quality in Murtala Muhammed International Airport, Lagos, Nigeria," *Int. J. Res. Ind. Eng.*, vol. 7, no. 3, pp. 349–369, 2018, doi: 10.22105/riej.2018.134686.1045.

[21] L. Eboli and G. Mazzulla, "A new customer satisfaction index for evaluating transit service quality," *J. Public Transp.*, vol. 12, no. 3, pp. 21–37, 2009, doi: 10.5038/2375-0901.12.3.2.

[22] R. M. Aboubakr and H. M. M. Bayoumy, "Evaluating educational service quality among dentistry and nursing students with the SERVQUAL model: A cross-sectional study," *J. Taibah Univ. Med. Sci.*, vol. 17, no. 4, pp. 648–657, 2022, doi: 10.1016/j.jtumed.2022.01.009.

[23] M. Jazuli, D. Samanhudi, and Handoyo, "Analisis kualitas pelayanan dengan SERVQUAL dan importance performance analysis di PT. XYZ," *Juminten J. Manaj. Ind. dan Teknol.*, vol. 1, no. 1, pp. 67–75, 2020, [Online]. Available: url: http://juminten.upnjatim.ac.id/index.php/juminten

[24] Sinollah and Masruro, "Dalam Membentuk Kepuasan Pelanggan Sehingga Tercipta Loyalitas Pelanggan (Studi Kasus pada Toko Mayang Collection cabang Kepanjen)," *J. Dialekt.*, vol. 4, no. 1, pp. 45–64, 2019.