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Intermodal Study at Old Gubeng and New Gubeng Railway Stasions Based on Passenger Satisfaction Analysis

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Abstract

With the increasing frequency of trains, more and more people are becoming interested in using them for transportation. However, at Gubeng station, the majority of passengers still prefer to use private vehicles or online transportation instead of public transportation. To evaluate passenger satisfaction with intermodal services at both the new and old Gubeng stations, a performance analysis was conducted. Data analysis uses quadrant analysis with the gap analysis method, the Importance Performance Analysis (IPA) method, the Customer Satisfaction Index (CSI) method, and the Fishbein method. From the results of the analysis, a total of 303 respondents were obtained. In the Gap Analysis method, negative values were obtained for all attributes. The overall service satisfaction index using the Customer Satisfaction Index method obtained a satisfaction index of 0.523 with the criteria "quite satisfied". The overall attitude value of the Fishbein method was 417.335, the criteria for a "neutral" attitude value.

Keywords

Intermodal, service performance, importance performance analysis (IPA), customer stasifaction index (CSI), fishbein

INTRODUCTION

Transportation is an important activity for people's lives in general. Transportation is the activity of moving people from one place to another using a vehicle, while the use of more than one type of vehicle is called intermodal transportation. Intermodal transportation has temporary stopping places for passengers to change modes of transportation which are called nodes in the form of terminals, stations, ports, and airports. Having good intermodal integration can make it easier for passengers to transfer. Good integration includes comfort, safety, and smoothness of the transportation process. Intermodal integration addresses speed of access, convenience, and affordability for passengers based on the location of integration needs. Thus, good intermodal integration can fulfil the integration components, namely faster, easier, and more affordable [1].

In facing the development of an increasingly complex transportation system and the ever-increasing demands for community mobility, the concept of intermodal stations has emerged as an integrative solution that promises a positive transformation in transportation management. Surabaya has attempted to implement the intermodal station concept by developing transit stations that provide easy access between various modes of transportation. Intermodal stations are not just transit stations but are a concept that designs stations as multimodal transfer point, one of which is Gubeng Station [2].

Gubeng Station is the largest train station in F and East Java and is the main train departure point from the city of Surabaya. The frequency of boarding and alighting passengers at Gubeng Station in 2022 is the highest in the entire Operational Area 8 Surabaya with a figure of 2.7 million passengers/year, compared to Pasar Turi Station with a figure of 1.79 million passengers/year (PT. KAI Daop 8 data Surabaya). With the high frequency of passengers at Gubeng Station, some passengers are less interested in using public transport because there is no definite schedule and the time between transport is long [3] Conventional public transportation still has several problems, such as the absence of a fixed schedule, route patterns that force transfers, excessive passengers during peak hours, guaranteed safety in public transportation, poor internal and external conditions, and careless driving [4]. Online motorcycle taxis are public transportation that is the same as motorcycle taxis in general, which use motorbikes as a means of transportation. Still, online motorcycle taxis can be said to be more advanced because they have been integrated with technological advances [5].

Surabaya residents are more interested in using private vehicles or online transportation which is easier, more comfortable, and more efficient [2]. One of the reasons why public transportation is not chosen as a travel alternative is because it is related to accessibility. Both from home and at the end of travel activities, passengers face the problem of how to get to the train station [6]. Another reason why passengers at Gubeng Station prefer to use private vehicles and online transportation compared to public transportation is because the distance from the station to the bus stop is far and takes time. According to Haris Muhammadun [7], Chairman of the Jakarta City

Transportation Council (DTKJ) in a virtual Forum Group Discussion with the theme 3 Pillars of Integration with the theme The Future of Jakarta Transportation (2021) said that physical intermodal integration could be realized immediately so that intermodal transfer times could be short, at least less than 5 minutes and encourage the realization of transportation without obstacles or seamless mobility.

According to Fauzi (2023) in the insight into the Surabaya vote poll [8] said that the development of integration of transportation modes should use Transport Oriented Development (TOD) by adopting experience in the capital city and then applying it in other areas including Surabaya by relying on public transportation. He also hopes that there will be new regulations so that all public transport operators will no longer operate separately. Many of the public transportation in the city of Surabaya use their application platforms, which makes it difficult for the public to obtain information about the public transportation they want to use.

The old Gubeng Station serves local trains with passengers coming from East Java, while the new Gubeng Station specifically serves business and executive class trains with passengers coming from destinations outside East Java. Considering the density of passengers both originating and departing at Gubeng Station, it is necessary to evaluate intermodal facilities in the new Gubeng Station area and the old Gubeng Station area. The intermodal study will be analyzed based on passenger satisfaction.

RESEARCH SIGNIFICANCE

This research aims to analyze the intermodal at old Gubeng Station and new Gubeng Station based on passenger satisfaction and can make improvements to the attributes that need to be improved to increase service user satisfaction.

METHODOLOGY

This research includes quantitative descriptive data analysis. This research involved passengers from the old and new Gubeng Stations. Data collection techniques are carried out by interviews or structured interviews using questionnaires. A preliminary survey or field survey is carried out to prepare the requirements for data collection. The data obtained was analyzed using the Gap analysis, Importance Performance Analysis (IPA), Customer Satisfaction Index (CSI), and Fishbein methods. Data processing includes the following steps:

- Validity Test and Reliability Test
- Gap Analysis
- Importance Performance Analysis (IPA)
- Customer Satisfaction Index (CSI)
- Fishbein

The analysis was divided into five types, whole respondents, respondents departure and arrival at Gubeng Station, and respondents from new and old Gubeng passengers.

RESULTS AND DISCUSSIONS

A. Service Attribute Dimensions

There are 6 variables determined to be researched, namely reliability, responsiveness, comfort, empathy, attention, tangibles, and accessibility. The following are the service dimensions and attributes used to measure the level of passenger satisfaction with the performance of intermodal services at Gubeng Station which can be seen in Table 1.

Table 1 Dimensions of service attributes at Gubeng Station

No.	Dimensions	Statement	Source
1	Reliability	1. There is a further public transportation service after getting off from Gubeng Station	- (Leliana & Widyastuti, 2018) [9]
2		2. Ease of changing modes of transportation	- (Fawwaz & Rakhmatulloh, 2021) [10]
3		3. There is connectivity between train schedules and advanced public transportation modes	- (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
4		4. Accuracy of public transport departure and arrival schedules	- (Indah et al., 2015) [12]
5		5. The ability of Gubeng Station officers to provide information related to changing modes of transportation to users	- (Indah et al., 2015) [12] - (Montana & Yenita, 2023) [11]
6		6. Location of suitable transportation modes	- (Indah et al., 2015) [12]
7	Responsive	1. Waiting time for connecting public transportation	- (Indah et al., 2015) [12] - (Leliana & Widyastuti, 2018) [9]
8		2. Speed and punctuality of public transportation, both to and from the station	- (Leliana & Widyastuti, 2018) [9]
9		3. Travel time to the destination using public transportation	- (Indah et al., 2015) [12] - (Leliana & Widyastuti, 2018) [9]
10		4. Responsiveness of officers offering informational assistance in changing modes of transportation	- (Andri et al., 2015) [13] - (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]

No.	Dimensions	Statement	Source
11		5. Speed of service in responding to user complaints and problems in changing modes of transportation	- (Andri et al., 2015) [13] - (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
12		6. There is sufficient lighting on the routes of public transportation	- (Zhang & Li, 2012) [14] - "Pedoman PUPR tentang Perencanaan Teknis Fasilitas Pejalan Kaki, 2023" [15]
13		7. There are officers or CCTV cameras available to monitor the situation on the transportation route	- (Zhang & Li, 2012) [14] - (Indah et al., 2015) [12] - "Pedoman PUPR tentang Perencanaan Teknis Fasilitas Pejalan Kaki, 2023" [15]
14	Assurance	8. Crossing facilities are available (zebra crossing, JPO, pelican crossing, etc.) on public transportation transfer routes	- (Zhang & Li, 2012) [14] - "Pedoman PUPR tentang Perencanaan Teknis Fasilitas Pejalan Kaki, 2023" [15]
15		9. There are adequate comfort facilities (fans, air conditioning, roofs) on public transportation routes	- (Zhang & Li, 2012) [14] - "Pedoman PUPR tentang Perencanaan Teknis Fasilitas Pejalan Kaki, 2023" [15]
16		10. Distance from Gubeng Station to where public transportation is located	- (Indah et al., 2015) [12] - (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
17		11. There is good cooperation from PT. KAI and Dishub Surabaya in providing good transportation mode transfer services	- "Undang-Undang (UU) Nomor 23 Tahun 2007 Tentang Perkeretaapian" [16]
18		12. Readiness of officers to assist passengers in changing modes of transportation	- (Indah et al., 2015) [12] - (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
19		13. Order and crowds when looking for public transportation	- "Peraturan Pemerintah Republik Indonesia Nomor 30 Tahun 2021 Tentang Penyelenggaraan Bidang Lalu Lintas Dan Angkutan Jalan" [17]
20	Empathy	14. The friendliness of the officers providing information on changing modes of transportation	- (Indah et al., 2015) [12] - (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
21		15. Location information and directions for onward transportation are easy to see and read	- (Indah et al., 2015) [12] - (Leliana & Widyastuti, 2018) [9]
22		16. Optimal public transport operating hours (short distance between transport)	- (Indah et al., 2015) [12] - (Leliana & Widyastuti, 2018) [9]
23		17. Schedule information and advanced public transport routes are available online	- (Leliana & Widyastuti, 2018) [9]
24		18. Schedule information and advanced public transport routes are available offline	- (Leliana & Widyastuti, 2018) [9]
25		19. Clean and comfortable bus stop facilities are available	- (Indah et al., 2015) [12] - (Leliana & Widyastuti, 2018) [9]
26	Tangible	20. Information maps are available that make it easier for passengers to find out the location of changing modes of transportation	- (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
27		21. Support facilities are available for people with disabilities when changing modes	- (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
28		22. There is a special pedestrian lane for changing modes of transportation	- (Indah et al., 2015) [12] - (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
29		23. Facilities are available that can help passengers move goods when they want to change modes of transportation (goods trolleys, porters, etc.)	- "Peraturan Menteri Perhubungan Nomor 33 Tahun 2011" [18]

No.	Dimensions	Statement	Source
30	Accessibility	1. Availability of directional signs to the location of the transfer mode of transportation	- (Fawwaz & Rakhmatulloh, 2021) [10] - (Montana & Yenita, 2023) [11]
31		2. The station is easily accessible by using the Suroboyo Bus or Trans Semanggi Bus	- (Leliana & Widyastuti, 2018) [9]
32		3. The station is easily accessible by using a microbus or Wirawiri Suroboyo (FD 2 Mayjend Sungkono – Town Hall route)	- (Leliana & Widyastuti, 2018) [9]
33		4. The station is easy to access by taxi or online transportation	- (Leliana & Widyastuti, 2018) [9]
34		5. Ease of getting further public transportation	- (Leliana & Widyastuti, 2018) [9]
35		6. Ease of getting advanced online transportation	- (Leliana & Widyastuti, 2018) [9]
36		7. Vehicle access in and out of Gubeng Station is smooth/not congested	- "PM 63 Tahun 2019 Standar Pelayanan Minimum Angkutan Orang Dengan Kereta Api" [19]
37		8. There is a special lane for public transportation for boarding and alighting passengers	- (Indah et al., 2015) [12]

B. Population and Sample

P. D. Sugiono [20] explains that the sample is part of the number and characteristics of the population. The population used was the largest train passengers at Gubeng Station, namely 2,823,204 passengers. In this research, the Slovin Formula was used [21] to obtain the amount respondents.

$$n = \frac{N}{1 + N(e)^2} = \frac{2.823.204}{1 + 2.823.204(0,1)^2} = 100\ samples$$

Where:

n = Number of samples

N = Number of population

e = Percentage error rate

This research used a sample of 303 samples with assumptions to prevent data invalidity.

C. Respondent Characteristics

After obtaining data from the survey results, an analysis of the description of the characteristics of the respondents was carried out. The characteristics of respondents in this study were seen based on filling location, gender, age, highest level of education, current job, monthly income, frequency of travel, purpose of travel, knowledge about Trans Semanggi/Suroboyo Bus, and knowledge about Wirawiri Suroboyo which can be seen in the Table. 2.

Table 2 Respondent characteristics

Characteristics	Characteristic Type	Percentage
Filling location	New Gubeng	46.20%
	Old Gubeng	53.80%
Gender	Woman	41.91%
	Man	58.09%
Age	<20 years	2.64%
	21-30 years	48.84%
	31-40 years	33.99%
	41-50 years	12.54%
	>50 years	1.98%
Last education	Elementary/middle School	0.66%
	High/vocational School	14.85%
	Diploma 1/2/3	15.84%
	Diploma 4/Bachelor	58.42%
	Magister/Doctor	10.23%
Job	Student	8.58%
	Civil servant	12.87%
	BUMN	16.83%
	Private employees	47.85%
	Self-employed	12.87%
	Other	0.99%
Income per month	No income yet	1.65%
	Rp. 500.000 – Rp. 2.500.000	6.60%
	Rp. 2.500.000 – Rp. 5.000.000	35.31%
	Rp. 5.000.000 – Rp. 10.000.000	43.89%
	Rp. 10.000.000 – Rp. 15.000.000	7.26%
	Rp. 500.000 – Rp. 2.500.000	5.28%
	>Rp. 15.000.000	1.65%
Travel frequency	3 times a week	1.65%
	Once a week	2.64%
	Twice a month	52.48%
	Once a year	40.59%
	Other	2.64%
The purpose of the trip	Business/work travel	16.17%
	Vacation/Tourism	33.00%
	Visiting family	45.54%
	College/School	1.65%

	Trading	3.63%
	Other	0.00%
Knowledge about Trans Semanggi/Suroboyo Bus	Know	93.07%
	Don't know	6.93%
Knowledge about Wirawiri Suroboyo	Know	70.63%
	Don't know	29.37%

D. Validity and Reliability Test

The results of the validity and reliability tests on the question attributes contained in the questionnaire were stated as valid and reliable using a statistical data processing program.

E. Gap Analysis Method

The gap calculation analysis is by reducing the level of satisfaction and the level of expectations, then sorting them from the biggest gap to find out which attribute is the worst. The gap calculation can be seen in Table 3.

Table 3 Calculation of gap levels of satisfaction and expectations

Ranking	Attribute	Statement	Mean X	Mean Y	Gap
18	1	There is a further public transportation service after getting off from Gubeng Station	2.614	4.389	-1.776
30	2	Ease of changing modes of transportation	2.795	4.370	-1.574
4	3	There is connectivity between train schedules and advanced public transportation modes	2.492	4.393	-1.901
9	4	Accuracy of public transport departure and arrival schedules	2.495	4.314	-1.818
26	5	The ability of Gubeng Station officers to provide information related to changing modes of transportation to users	2.703	4.380	-1.677
28	6	Location of suitable transportation modes	2.683	4.314	-1.630
6	7	Waiting time for connecting public transportation	2.495	4.350	-1.855
3	8	Speed and punctuality of public transportation, both to and from the station	2.449	4.376	-1.927
2	9	Travel time to the destination using public transportation	2.472	4.406	-1.934
8	10	Responsiveness of officers offering informational assistance in changing modes of transportation	2.545	4.380	-1.835
15	11	Speed of service in responding to user complaints and problems in changing modes of transportation	2.488	4.284	-1.795
20	12	There is sufficient lighting on the routes of public transportation	2.541	4.304	-1.762
21	13	There are officers or CCTV cameras available to monitor the situation on the transportation route	2.521	4.281	-1.759
27	14	Crossing facilities are available (zebra crossing, JPO, pelican crossing, etc.) on public transportation transfer routes	2.667	4.304	-1.637
11	15	There are adequate comfort facilities (fans, air conditioning, roofs) on public transportation routes	2.531	4.330	-1.799
10	16	Distance from Gubeng Station to where public transportation is located	2.508	4.317	-1.809
16	17	There is good cooperation from PT. KAI and Dishub Surabaya in providing good transportation mode transfer services	2.485	4.267	-1.782
12	18	Readiness of officers to assist passengers in changing modes of transportation	2.469	4.267	-1.799
33	19	Order and crowds when looking for public transportation	2.805	4.241	-1.436
32	20	The friendliness of the officers providing information on changing modes of transportation	2.828	4.271	-1.442
29	21	Location information and directions for onward transportation are easy to see and read	2.614	4.218	-1.604
1	22	Optimal public transport operating hours (short distance between transport)	2.436	4.380	-1.944
35	23	Schedule information and advanced public transport routes are available online	2.983	4.307	-1.323

17	24	Schedule information and advanced public transport routes are available offline	2.508	4.287	-1.779
19	25	Clean and comfortable bus stop facilities are available	2.525	4.300	-1.776
34	26	Information maps are available that make it easier for passengers to find out the location of changing modes of transportation	2.851	4.251	-1.399
14	27	Support facilities are available for people with disabilities when changing modes	2.515	4.314	-1.799
24	28	There is a special pedestrian lane for changing modes of transportation	2.551	4.241	-1.690
7	29	Facilities are available that can help passengers move goods when they want to change modes of transportation (goods trolleys, porters, etc.)	2.505	4.350	-1.845
23	30	Availability of directional signs to the location of the transfer mode of transportation	2.601	4.350	-1.749
25	31	The station is easily accessible by using the Suroboyo Bus or Trans Semanggi Bus	2.584	4.264	-1.680
31	32	The station is easily accessible by using a microbus or Wirawiri Suroboyo (FD 2 Mayjend Sungkono – Town Hall route)	2.716	4.231	-1.515
36	33	The station is easy to access by taxi or online transportation	3.205	4.442	-1.238
13	34	Ease of getting further public transportation	2.538	4.337	-1.799
37	35	Ease of getting advanced online transportation	3.142	4.274	-1.132
5	36	Vehicle access in and out of Gubeng Station is smooth/not congested	2.403	4.274	-1.871
22	37	There is a special lane for public transportation for boarding and alighting passengers	2.488	4.241	-1.752

Based on Table 3, negative gap values are obtained for all attributes. This means that the level of passenger satisfaction with intermodal at Gubeng Station is smaller than their level of expectations.

F. Importance-Performance Analysis (IPA) Analysis

This analysis is used to determine the gap between expectations and perceptions found in testing the same sample group with the same questionnaire and respondents, which is then processed into a Cartesian diagram [22]. The steps in the Importance Performance Analysis (IPA) method are as follows:

- Recap of observation data
- Calculation of the mean performance ($\overline{X}$) and expectations ($\overline{Y}$) of all passengers

$$\overline{X} = \frac{\sum Xi}{n}$$
$$\overline{Y} = \frac{\sum Yi}{n}$$

where:

$\overline{X}$ = Average performance score
$\overline{Y}$ = Average expectation score
$\sum$Xi = Total performance level scores
$\sum$Yi = Total performance expectation score
n = Number of respondents

- The next step is to create a map in the important-performance position, which is a shape divided into four quadrants bounded by two perpendicular intersecting lines from the means performance and expectations. For more detail can be seen Figure 1.

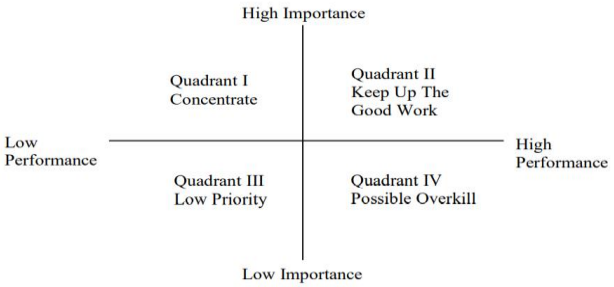

Figure 1 Quadrants on the importance-performance grid [23]

The following results of the importance-performance analysis (IPA) analysis with five types can be seen in Figures 2 to 6 and based on the results, the following is a summary of the attributes that fall into quadrant 1 which can be seen in Table 4.

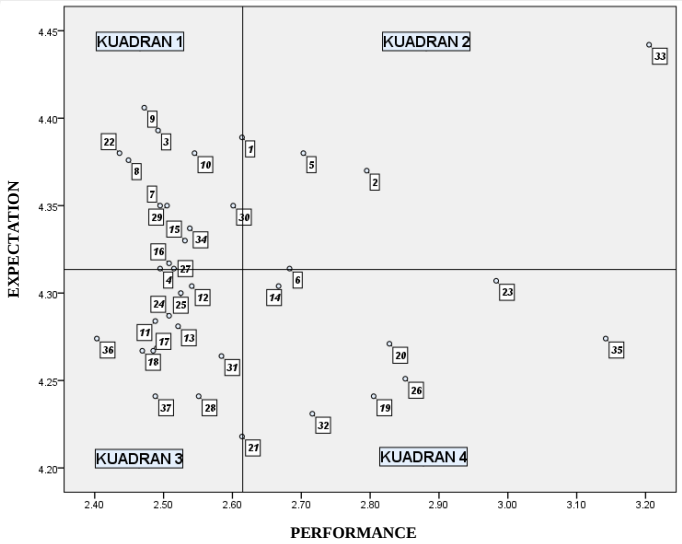

Figure 2 Cartesian diagram of performance index for all respondents regarding intermodal at Gubeng Station

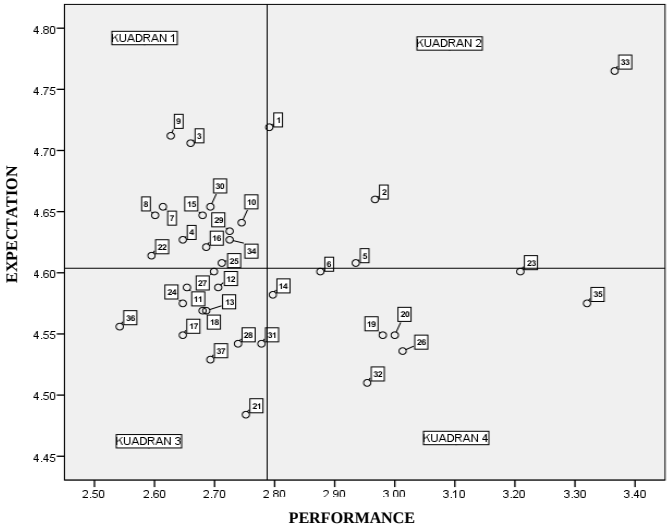

Figure 3 Cartesian diagram of performance index for departure train passenger respondents regarding intermodal at Gubeng Station

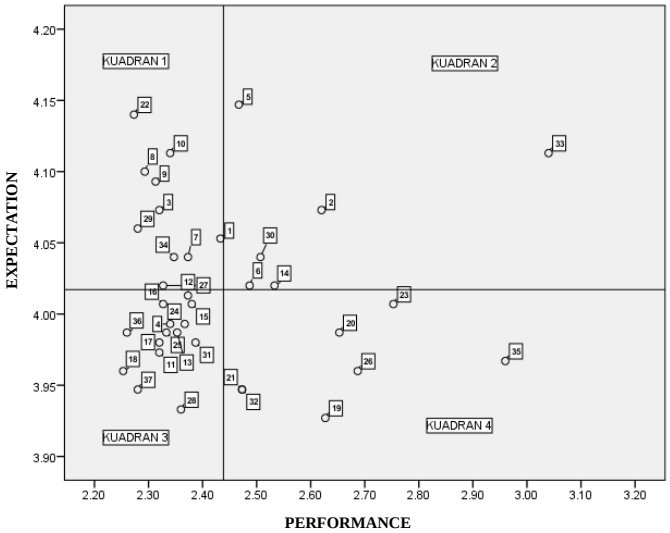

Figure 4 Cartesian diagram of performance index for arrival train passenger respondents regarding intermodal at Gubeng Station

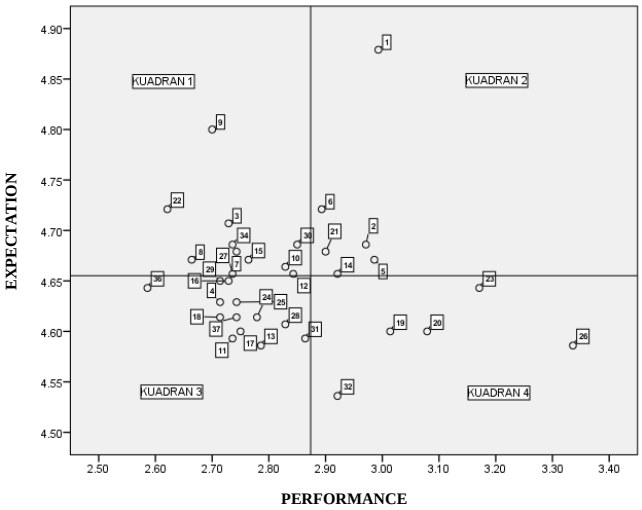

Figure 5 Cartesian diagram of performance index regarding intermodality at New Gubeng Station

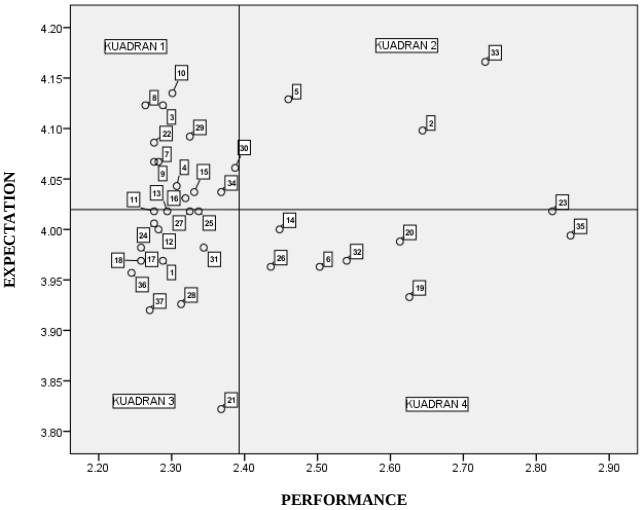

Figure 6 Cartesian diagram of performance index regarding intermodality at Old Gubeng Station

Table 4 The Summary of results using the IPA method in quadrant 1

Attr Number	Name of Attributes	Departure Passengers	Arrival Passengers	Passengers at New Gubeng	Passengers at Old Gubeng	Solutions
1	There is a further public transportation service after getting off from Gubeng Station		X			Providing special stops or special public transportation with easy access at stations,
3	There is connectivity between train schedules and advanced public transportation modes	X	X	X	X	There needs to be cooperation from the Surabaya city government and PT. KAI
4	Accuracy of public transport departure and arrival schedules	X			X	There needs to be a study regarding schedule consistency on public transportation
7	Waiting time for connecting public transportation	X	X	X	X	There needs to be a study regarding waiting time on public transportation
8	Speed and punctuality of public transportation, both to and from the station	X	X	X	X	It is necessary to have priority lanes and implement special traffic signals for public transportation
9	Travel time to the destination using public transportation	X	X	X	X	There needs to be a study regarding travel time on public transportation
10	Responsiveness of officers offering informational assistance in changing modes of transportation	X	X	X	X	There is a need to recruit officers who work specifically to serve passengers, providing information on existing intermodal options and helping them change modes.

Attr Number	Name of Attributes	Departure Passengers	Arrival Passengers	Passengers at New Gubeng	Passengers at Old Gubeng	Solutions
15	There are adequate comfort facilities (fans, air conditioning, roofs) on public transportation routes	X		X	X	There is a roof and air conditioning facilities such as fans or air conditioning available
16	Distance from Gubeng Station to where public transportation is located	X			X	Providing special stops or special public transportation with easy access at stations,
22	Optimal public transport operating hours (short distance between transport)	X	X	X	X	There needs to be a study regarding headway on public transportation
27	Support facilities are available for people with disabilities when changing modes		X	X		There is a facilities to support people with disabilities (such as ramps, guiding blocks, wheelchairs, special parking, and officers who are ready to help with directions),
29	Facilities are available that can help passengers move goods when they want to change modes of transportation (goods trolleys, porters, etc.)	X	X		X	Availability of trolley and goods porter facilities
30	Availability of directional signs to the location of the transfer mode of transportation	X		X	X	The availability of directional signs inside and outside Gubeng station clearly informs intermodal,
34	Ease of getting further public transportation	X	X	X	X	The Surabaya City Government provides various public transportation options at Gubeng Station

G. Customer Satisfaction Index (CSI) Analysis

The benefit of conducting a Customer Satisfaction Index (CSI) is to determine the level of satisfaction of land transportation service users, especially at stations by looking at the level of importance of service attributes[24]. The steps that can be taken to determine the size of the CSI method are as follows :

- Determine the mean importance score (MIS)
- Making weight factors (WF)
- Making a weight score (WS)
- Determine the Customer Satisfaction Index (CSI)

The following is the formula used in the Customer Satisfaction Index (CSI) method:

$$MIS = \frac{[\sum_{i=1}^{n} Yi]}{n}$$

$$WF = \frac{MISi}{\sum_{i=1}^{p} MISi}\ x\ 100$$

$$\text{WSi} = \text{Wfi x MSS}$$

$$CSI = \frac{\sum_{i=1}^{p} WSi}{HS}\ x\ 100\%$$

where :

n = Number of consumers
Yi = Attribute importance value Y to i
p = Importance attribute p
HS = Highest scale

The service user satisfaction index shown in the Table 5.

Table 5 CSI v alue

No	CSI Value	CSI Category
1	0,81 – 1,00	Very satisfied
2	0,66 – 0,80	Satisfied
3	0,51 – 0,65	Quite satisfied
4	0,36 – 0,50	Less satisfied
5	0,00 – 0,34	Not satisfied

The following results of the Customer Satisfaction Index (CSI) analysis with five types can be seen in Table 6 to 10.

Table 6 Results of CSI analysis for all respondents

Attribute	$\bar{X}$	$\bar{Y}$	WF	WS	CSI	Category
1	2.614	4.389	0.028	0.072	0.532	Quite satisfied
2	2.795	4.370	0.027	0.077	0.566	Quite satisfied
3	2.492	4.393	0.028	0.069	0.508	Quite satisfied
4	2.495	4.314	0.027	0.067	0.499	Less satisfied
5	2.703	4.380	0.027	0.074	0.549	Quite satisfied
6	2.683	4.314	0.027	0.073	0.537	Quite satisfied
7	2.495	4.350	0.027	0.068	0.503	Quite satisfied
8	2.449	4.376	0.027	0.067	0.497	Less satisfied
9	2.472	4.406	0.028	0.068	0.505	Quite satisfied
10	2.545	4.380	0.027	0.070	0.517	Quite satisfied
11	2.488	4.284	0.027	0.067	0.494	Less satisfied
12	2.541	4.304	0.027	0.069	0.507	Quite satisfied
13	2.521	4.281	0.027	0.068	0.501	Quite satisfied
14	2.667	4.304	0.027	0.072	0.532	Quite satisfied
15	2.531	4.330	0.027	0.069	0.508	Quite satisfied
16	2.508	4.317	0.027	0.068	0.502	Quite satisfied
17	2.485	4.267	0.027	0.066	0.492	Less satisfied
18	2.469	4.267	0.027	0.066	0.489	Less satisfied
19	2.805	4.241	0.027	0.075	0.552	Quite satisfied
20	2.828	4.271	0.027	0.076	0.560	Quite satisfied
21	2.614	4.218	0.027	0.069	0.511	Quite satisfied
22	2.436	4.380	0.027	0.067	0.495	Less satisfied
23	2.983	4.307	0.027	0.081	0.596	Quite satisfied
24	2.508	4.287	0.027	0.067	0.499	Less satisfied
25	2.525	4.300	0.027	0.068	0.503	Quite satisfied
26	2.851	4.251	0.027	0.076	0.562	Quite satisfied
27	2.515	4.314	0.027	0.068	0.503	Quite satisfied
28	2.551	4.241	0.027	0.068	0.502	Quite satisfied
29	2.505	4.350	0.027	0.068	0.505	Quite satisfied
30	2.601	4.350	0.027	0.071	0.525	Quite satisfied
31	2.584	4.264	0.027	0.069	0.511	Quite satisfied
32	2.716	4.231	0.027	0.072	0.533	Quite satisfied
33	3.205	4.442	0.028	0.089	0.660	Satisfied
34	2.538	4.337	0.0277	0.069	0.510	Quite satisfied
35	3.142	4.274	0.027	0.084	0.623	Quite satisfied
36	2.403	4.274	0.027	0.064	0.476	Less satisfied
37	2.488	4.241	0.027	0.066	0.489	Less satisfied
			∑WS	2.615		
Customer satisfaction Index (CSI) = ∑WS/5				0.523		Quite satisfied

Table 7 Results of CSI analysis for departure train passenger respondents at Gubeng Station

Attribute	$\bar{X}$	$\bar{Y}$	WF	WS	CSI	Category
1	2.791	4.719	0.028	0.077	0.572	Quite satisfied
2	2.967	4.660	0.027	0.081	0.601	Quite satisfied
3	2.660	4.706	0.028	0.073	0.544	Quite satisfied
4	2.647	4.627	0.027	0.072	0.532	Quite satisfied
5	2.935	4.608	0.027	0.079	0.587	Quite satisfied
6	2.876	4.601	0.027	0.078	0.575	Quite satisfied
7	2.614	4.654	0.027	0.071	0.529	Quite satisfied
8	2.601	4.647	0.027	0.071	0.525	Quite satisfied

Attribute	$\bar{X}$	$\bar{Y}$	WF	WS	CSI	Category
9	2.627	4.712	0.028	0.073	0.538	Quite satisfied
10	2.745	4.641	0.027	0.075	0.553	Quite satisfied
11	2.654	4.588	0.027	0.071	0.529	Quite satisfied
12	2.706	4.588	0.027	0.073	0.539	Quite satisfied
13	2.686	4.569	0.027	0.072	0.533	Quite satisfied
14	2.797	4.582	0.027	0.075	0.557	Quite satisfied
15	2.680	4.647	0.027	0.073	0.541	Quite satisfied
16	2.686	4.621	0.027	0.073	0.539	Quite satisfied
17	2.647	4.549	0.027	0.071	0.523	Quite satisfied
18	2.680	4.569	0.027	0.072	0.532	Quite satisfied
19	2.980	4.549	0.027	0.080	0.589	Quite satisfied
20	3.000	4.549	0.027	0.080	0.593	Quite satisfied
21	2.752	4.484	0.026	0.072	0.536	Quite satisfied
22	2.595	4.614	0.027	0.070	0.520	Quite satisfied
23	3.209	4.601	0.027	0.087	0.642	Quite satisfied
24	2.647	4.575	0.027	0.071	0.526	Quite satisfied
25	2.712	4.608	0.027	0.073	0.543	Quite satisfied
26	3.013	4.536	0.027	0.080	0.594	Quite satisfied
27	2.699	4.601	0.027	0.073	0.540	Quite satisfied
28	2.739	4.542	0.027	0.073	0.540	Quite satisfied
29	2.725	4.634	0.027	0.074	0.549	Quite satisfied
30	2.693	4.654	0.027	0.074	0.544	Quite satisfied
31	2.778	4.542	0.027	0.074	0.548	Quite satisfied
32	2.954	4.510	0.026	0.078	0.579	Quite satisfied
33	3.366	4.765	0.028	0.094	0.697	Satisfied
34	2.725	4.627	0.027	0.074	0.548	Quite satisfied
35	3.320	4.575	0.027	0.089	0.660	Satisfied
36	2.542	4.556	0.027	0.068	0.503	Quite satisfied
37	2.693	4.529	0.027	0.072	0.530	Quite satisfied
			∑WS	2.788		
Customer satisfaction Index (CSI) = ∑WS/5				0.558	Quite satisfied	

Table 8 Results of CSI analysis for arrival train passenger respondents at Gubeng Station

Attribute	$\bar{X}$	$\bar{Y}$	WF	WS	CSI	Category
1	2.433	4.053	0.027	0.066	0.4911	Less satisfied
2	2.620	4.073	0.027	0.072	0.5313	Quite satisfied
3	2.320	4.073	0.027	0.064	0.4705	Less satisfied
4	2.340	3.993	0.027	0.063	0.4652	Less satisfied
5	2.467	4.147	0.028	0.069	0.5092	Quite satisfied
6	2.487	4.020	0.027	0.067	0.4977	Less satisfied
7	2.373	4.040	0.027	0.065	0.4774	Less satisfied
8	2.293	4.100	0.028	0.063	0.4681	Less satisfied
9	2.313	4.093	0.028	0.064	0.4714	Less satisfied
10	2.340	4.113	0.028	0.065	0.4792	Less satisfied
11	2.320	3.973	0.027	0.062	0.4589	Less satisfied
12	2.373	4.013	0.027	0.064	0.4742	Less satisfied
13	2.353	3.987	0.027	0.063	0.4671	Less satisfied
14	2.533	4.020	0.027	0.069	0.5070	Quite satisfied
15	2.380	4.007	0.027	0.064	0.4748	Less satisfied
16	2.327	4.007	0.027	0.063	0.4641	Less satisfied
17	2.320	3.980	0.027	0.062	0.4597	Less satisfied
18	2.253	3.960	0.027	0.060	0.4443	Less satisfied
19	2.627	3.927	0.026	0.069	0.5135	Quite satisfied
20	2.653	3.987	0.027	0.071	0.5266	Quite satisfied
21	2.473	3.947	0.027	0.066	0.4860	Less satisfied
22	2.273	4.140	0.028	0.063	0.4686	Less satisfied
23	2.753	4.007	0.027	0.074	0.5492	Quite satisfied
24	2.367	3.993	0.027	0.064	0.4705	Less satisfied
25	2.333	3.987	0.027	0.063	0.4631	Less satisfied
26	2.687	3.960	0.027	0.072	0.5297	Quite satisfied
27	2.327	4.020	0.027	0.063	0.4657	Less satisfied
28	2.360	3.933	0.026	0.062	0.4622	Less satisfied
29	2.280	4.060	0.027	0.062	0.4609	Less satisfied
30	2.507	4.040	0.027	0.068	0.5042	Quite satisfied
31	2.387	3.980	0.027	0.064	0.4729	Less satisfied
32	2.473	3.947	0.027	0.066	0.4860	Less satisfied
33	3.040	4.113	0.028	0.084	0.6226	Quite satisfied
34	2.347	4.040	0.027	0.064	0.4720	Less satisfied
35	2.960	3.967	0.027	0.079	0.5846	Quite satisfied
36	2.260	3.987	0.027	0.061	0.4486	Less satisfied
37	2.280	3.947	0.027	0.061	0.4480	Less satisfied
			∑WS	2.439		
Customer satisfaction Index (CSI) = ∑WS/5				0.488	Less satisfied	

Table 9 Results of CSI analysis for respondents from new Gubeng Station passenger

Attribute	$\bar{X}$	$\bar{Y}$	WF	WS	CSI	Category
1	2.993	4.879	0.028	0.085	0.627	Quite satisfied
2	2.971	4.686	0.027	0.081	0.598	Quite satisfied
3	2.729	4.707	0.027	0.075	0.552	Quite satisfied
4	2.714	4.629	0.027	0.073	0.540	Quite satisfied
5	2.986	4.671	0.027	0.081	0.599	Quite satisfied
6	2.893	4.721	0.027	0.079	0.587	Quite satisfied
7	2.743	4.679	0.027	0.075	0.551	Quite satisfied
8	2.664	4.671	0.027	0.072	0.535	Quite satisfied
9	2.700	4.800	0.028	0.075	0.557	Quite satisfied
10	2.829	4.664	0.027	0.077	0.567	Quite satisfied
11	2.736	4.593	0.027	0.073	0.540	Quite satisfied
12	2.843	4.657	0.027	0.077	0.569	Quite satisfied
13	2.786	4.586	0.027	0.074	0.549	Quite satisfied
14	2.921	4.657	0.027	0.079	0.585	Quite satisfied
15	2.764	4.671	0.027	0.075	0.555	Quite satisfied
16	2.729	4.650	0.027	0.074	0.545	Quite satisfied
17	2.750	4.600	0.027	0.073	0.544	Quite satisfied
18	2.714	4.614	0.027	0.073	0.538	Quite satisfied
19	3.014	4.600	0.027	0.081	0.596	Quite satisfied
20	3.079	4.600	0.027	0.082	0.608	Quite satisfied
21	2.900	4.679	0.027	0.079	0.583	Quite satisfied
22	2.621	4.721	0.027	0.072	0.532	Quite satisfied
23	3.171	4.643	0.027	0.085	0.633	Quite satisfied
24	2.779	4.614	0.027	0.074	0.551	Quite satisfied
25	2.743	4.629	0.027	0.074	0.545	Quite satisfied
26	3.336	4.586	0.027	0.089	0.657	Satisfied
27	2.736	4.657	0.027	0.074	0.547	Quite satisfied
28	2.829	4.607	0.027	0.076	0.560	Quite satisfied
29	2.714	4.650	0.027	0.073	0.542	Quite satisfied
30	2.850	4.686	0.027	0.078	0.574	Quite satisfied
31	2.864	4.593	0.027	0.076	0.565	Quite satisfied
32	2.921	4.536	0.026	0.077	0.569	Quite satisfied
33	3.757	4.764	0.028	0.104	0.769	Satisfied
34	2.736	4.686	0.027	0.074	0.551	Quite satisfied
35	3.486	4.600	0.027	0.093	0.689	Satisfied
36	2.586	4.643	0.027	0.070	0.516	Quite satisfied
37	2.743	4.614	0.027	0.073	0.544	Quite satisfied
			∑WS	2.874		
Customer satisfaction Index (CSI) = ∑WS/5				0.575	Quite satisfied	

Table 10 Results of CSI analysis for respondents from old Gubeng Station passenger

Attribute	$\bar{X}$	$\bar{Y}$	WF	WS	CSI	Category
1	2.288	3.969	0.027	0.061	0.452	Less satisfied
2	2.644	4.098	0.028	0.073	0.539	Quite satisfied
3	2.288	4.123	0.028	0.063	0.469	Less satisfied
4	2.307	4.043	0.027	0.063	0.464	Less satisfied
5	2.460	4.129	0.028	0.068	0.505	Quite satisfied
6	2.503	3.963	0.027	0.067	0.494	Less satisfied
7	2.282	4.067	0.027	0.062	0.462	Less satisfied
8	2.264	4.123	0.028	0.063	0.464	Less satisfied
9	2.276	4.067	0.027	0.062	0.461	Less satisfied
10	2.301	4.135	0.028	0.064	0.473	Less satisfied
11	2.276	4.018	0.027	0.061	0.455	Less satisfied
12	2.282	4.000	0.027	0.061	0.454	Less satisfied
13	2.294	4.018	0.027	0.062	0.459	Less satisfied
14	2.448	4.000	0.027	0.066	0.487	Less satisfied
15	2.331	4.037	0.027	0.063	0.468	Less satisfied
16	2.319	4.031	0.027	0.063	0.465	Less satisfied
17	2.258	3.982	0.027	0.060	0.447	Less satisfied
18	2.258	3.969	0.027	0.060	0.446	Less satisfied
19	2.626	3.933	0.026	0.069	0.514	Quite satisfied
20	2.613	3.988	0.027	0.070	0.519	Quite satisfied
21	2.368	3.822	0.026	0.061	0.450	Less satisfied
22	2.276	4.086	0.027	0.063	0.463	Less satisfied
23	2.822	4.018	0.027	0.076	0.564	Quite satisfied
24	2.276	4.006	0.027	0.061	0.454	Less satisfied
25	2.337	4.018	0.027	0.063	0.467	Less satisfied
26	2.436	3.963	0.027	0.065	0.480	Less satisfied
27	2.325	4.018	0.027	0.063	0.465	Less satisfied
28	2.313	3.926	0.026	0.061	0.452	Less satisfied
29	2.325	4.092	0.028	0.064	0.473	Less satisfied
30	2.387	4.061	0.027	0.065	0.482	Less satisfied
31	2.344	3.982	0.027	0.063	0.464	Less satisfied
32	2.540	3.969	0.027	0.068	0.502	Quite satisfied
33	2.730	4.166	0.028	0.076	0.566	Quite satisfied
34	2.368	4.037	0.027	0.064	0.476	Less satisfied
35	2.847	3.994	0.027	0.076	0.566	Quite satisfied
36	2.245	3.957	0.027	0.060	0.442	Less satisfied
37	2.270	3.920	0.026	0.060	0.443	Less satisfied
			∑WS	2.393		
Customer satisfaction Index (CSI) = ∑WS/5				0.479	Less satisfied	

Based on Tables 6 to 10, it can be seen that the passenger satisfaction index arrival train passenger respondents at Gubeng Station and Old Gubeng respondents showed "less satisfied" results compared to respondents from Surabaya and New Gubeng who showed "quite satisfied" results. When combined, it seems that the intermodal performance at Gubeng Station is quite satisfied. These results could occur because respondents

who were less satisfied on average came from outside Surabaya and felt that the intermodal at Gubeng Station needed to be improved, and Old Gubeng respondents felt that the intermodal around Old Gubeng also required improvement, especially in the variables responsiveness, assurance, and tangible.

H. Fishbein Analysis

The Fishbein multi-attribute attitude model is used to determine consumer attitudes towards a particular product or service attribute based on the level of trust and weighted by the level of evaluation of the ideal and actual product attributes. According to Mowen and Minor [25] the following is the formula used in the Fishbein method :

$$A_o = \sum_{i=1}^{n} bi.ei$$

Where :

Ao = Attitude towards objects
bi = The level of confidence that an object has an attribute i
ei = Level of evaluation of attributes i
n = The number of attributes an object has.

All the multiplication results are then added up so that from the tabulation results we can find out the consumer's attitude (Ao) towards the product by comparing them using an interval scale with the following formula:

$$\boldsymbol{RS = \frac{m-n}{b} = \frac{5-1}{5} = 0,8}$$

$$\boldsymbol{RS_{Ao} = \frac{mxmx37 - nxnx37}{b} = \frac{5x5x37 - 1x1x37}{5}}$$

$$\boldsymbol{RS_{Ao} = 177,60}$$

Where:

RS = Score range
m = The highest possible score
n = The lowest possible score
b = A certain number of rating scales

The passenger attitude assessment score range scale can be seen at Table 11 and 12.

Table 11 Score range fishbein for each attribute

No	Fishbein Value	CSI Category
1	1 – 5.80	Very negative
2	5.81 – 10.60	Negative
3	10.61 – 15.40	Neutral
4	15.41 – 20.20	Positive
5	20.21 – 25.00	Very positive

Table 12 Score range fishbein in total

No	Fishbein Value	CSI Category
1	37 – 214.60	Very negative
2	214.61 – 392.20	Negative
3	392.21 – 569.80	Neutral
4	569.81 – 747.40	Positive
5	747.41 – 925.00	Very positive

The following results of the Fishbein analysis with five types can be seen in Table 13 to 17.

Table 13 Results of fishbein analysis for all respondents

Attribute	ei	bi	Ao	Category
1	2.614	4.389	11.473	Neutral
2	2.795	4.370	12.215	Neutral
3	2.492	4.393	10.946	Neutral
4	2.495	4.314	10.762	Neutral
5	2.703	4.380	11.838	Neutral
6	2.683	4.314	11.574	Neutral
7	2.495	4.350	10.853	Neutral
8	2.449	4.376	10.717	Neutral
9	2.472	4.406	10.891	Neutral
10	2.545	4.380	11.144	Neutral
11	2.488	4.284	10.660	Neutral
12	2.541	4.304	10.937	Neutral
13	2.521	4.281	10.793	Neutral
14	2.667	4.304	11.476	Neutral
15	2.531	4.330	10.961	Neutral
16	2.508	4.317	10.828	Neutral
17	2.485	4.267	10.605	Neutral
18	2.469	4.267	10.535	Negative
19	2.805	4.241	11.897	Neutral
20	2.828	4.271	12.079	Neutral
21	2.614	4.218	11.025	Neutral
22	2.436	4.380	10.667	Neutral
23	2.983	4.307	12.850	Neutral
24	2.508	4.287	10.753	Neutral
25	2.525	4.300	10.857	Neutral
26	2.851	4.251	12.121	Neutral
27	2.515	4.314	10.848	Neutral
28	2.551	4.241	10.819	Neutral
29	2.505	4.350	10.896	Neutral
30	2.601	4.350	11.312	Neutral
31	2.584	4.264	11.019	Neutral
32	2.716	4.231	11.492	Neutral
33	3.205	4.442	14.236	Neutral
34	2.538	4.337	11.006	Neutral
35	3.142	4.274	13.428	Neutral
36	2.403	4.274	10.269	Negative
37	2.488	4.241	10.553	Negative
Total (ΣAo)			417.335	Neutral

Table 14 Results of fishbein analysis for departure train passenger respondents at Gubeng Station

Attribute	ei	bi	Ao	Category
1	2.791	4.719	13.170	Neutral
2	2.967	4.660	13.828	Neutral
3	2.660	4.706	12.518	Neutral
4	2.647	4.627	12.249	Neutral
5	2.935	4.608	13.522	Neutral
6	2.876	4.601	13.233	Neutral
7	2.614	4.654	12.166	Neutral
8	2.601	4.647	12.088	Neutral
9	2.627	4.712	12.382	Neutral
10	2.745	4.641	12.739	Neutral
11	2.654	4.588	12.175	Neutral
12	2.706	4.588	12.415	Neutral
13	2.686	4.569	12.273	Neutral
14	2.797	4.582	12.817	Neutral
15	2.680	4.647	12.453	Neutral
16	2.686	4.621	12.413	Neutral
17	2.647	4.549	12.042	Neutral
18	2.680	4.569	12.243	Neutral
19	2.980	4.549	13.558	Neutral
20	3.000	4.549	13.647	Neutral
21	2.752	4.484	12.337	Neutral
22	2.595	4.614	11.973	Neutral
23	3.209	4.601	14.766	Neutral
24	2.647	4.575	12.111	Neutral
25	2.712	4.608	12.498	Neutral
26	3.013	4.536	13.667	Neutral
27	2.699	4.601	12.421	Neutral
28	2.739	4.542	12.440	Neutral
29	2.725	4.634	12.630	Neutral
30	2.693	4.654	12.531	Neutral
31	2.778	4.542	12.618	Neutral
32	2.954	4.510	13.323	Neutral
33	3.366	4.765	16.038	Positive
34	2.725	4.627	12.612	Neutral
35	3.320	4.575	15.191	Neutral
36	2.542	4.556	11.582	Neutral
37	2.693	4.529	12.197	Neutral
Total (ΣAo)			474.866	Neutral

Table 15 Results of fishbein analysis for arrival train passenger respondents at Gubeng Station

Attribute	ei	bi	Ao	Category
1	2.433	4.053	9.863	Negative
2	2.620	4.073	10.672	Neutral
3	2.320	4.073	9.450	Negative
4	2.340	3.993	9.344	Negative
5	2.467	4.147	10.228	Negative
6	2.487	4.020	9.996	Negative
7	2.373	4.040	9.588	Negative
8	2.293	4.100	9.403	Negative
9	2.313	4.093	9.469	Negative
10	2.340	4.113	9.625	Negative
11	2.320	3.973	9.218	Negative
12	2.373	4.013	9.525	Negative
13	2.353	3.987	9.382	Negative
14	2.533	4.020	10.184	Negative
15	2.380	4.007	9.536	Negative
16	2.327	4.007	9.322	Negative
17	2.320	3.980	9.234	Negative
18	2.253	3.960	8.923	Negative
19	2.627	3.927	10.314	Negative
20	2.653	3.987	10.578	Negative
21	2.473	3.947	9.761	Negative
22	2.273	4.140	9.412	Negative
23	2.753	4.007	11.032	Neutral
24	2.367	3.993	9.451	Negative
25	2.333	3.987	9.302	Negative
26	2.687	3.960	10.639	Neutral
27	2.327	4.020	9.353	Negative
28	2.360	3.933	9.283	Negative
29	2.280	4.060	9.257	Negative
30	2.507	4.040	10.127	Negative
31	2.387	3.980	9.499	Negative
32	2.473	3.947	9.761	Negative
33	3.040	4.113	12.505	Neutral
34	2.347	4.040	9.481	Negative
35	2.960	3.967	11.741	Neutral
36	2.260	3.987	9.010	Negative
37	2.280	3.947	8.998	Negative
Total (ΣAo)			362.468	Negative

Table 16 Results of fishbein analysis for respondents from new Gubeng Station passenger

Attribute	ei	bi	Ao	Category
1	2.993	4.879	14.601	Neutral
2	2.971	4.686	13.923	Neutral
3	2.729	4.707	12.844	Neutral
4	2.714	4.629	12.563	Neutral
5	2.986	4.671	13.948	Neutral
6	2.893	4.721	13.658	Neutral
7	2.743	4.679	12.833	Neutral
8	2.664	4.671	12.446	Neutral
9	2.700	4.800	12.960	Neutral
10	2.829	4.664	13.193	Neutral
11	2.736	4.593	12.565	Neutral
12	2.843	4.657	13.240	Neutral
13	2.786	4.586	12.774	Neutral
14	2.921	4.657	13.606	Neutral
15	2.764	4.671	12.913	Neutral
16	2.729	4.650	12.688	Neutral
17	2.750	4.600	12.650	Neutral
18	2.714	4.614	12.524	Neutral
19	3.014	4.600	13.866	Neutral
20	3.079	4.600	14.161	Neutral
21	2.900	4.679	13.568	Neutral
22	2.621	4.721	12.377	Neutral
23	3.171	4.643	14.724	Neutral
24	2.779	4.614	12.821	Neutral
25	2.743	4.629	12.696	Neutral
26	3.336	4.586	15.297	Neutral
27	2.736	4.657	12.741	Neutral
28	2.829	4.607	13.032	Neutral
29	2.714	4.650	12.621	Neutral
30	2.850	4.686	13.354	Neutral
31	2.864	4.593	13.155	Neutral
32	2.921	4.536	13.251	Neutral
33	3.757	4.764	17.900	Positive
34	2.736	4.686	12.819	Neutral
35	3.486	4.600	16.034	Positive
36	2.586	4.643	12.005	Neutral
37	2.743	4.614	12.656	Neutral
Total (ΣAo)			495.007	Neutral

Table 17 Results of fishbein analysis for respondents from old Gubeng Station passenger

Attribute	ei	bi	Ao	Category
1	2.288	3.969	9.083	Negative
2	2.644	4.098	10.836	Neutral
3	2.288	4.123	9.434	Negative
4	2.307	4.043	9.326	Negative
5	2.460	4.129	10.157	Negative
6	2.503	3.963	9.920	Negative
7	2.282	4.067	9.283	Negative
8	2.264	4.123	9.333	Negative
9	2.276	4.067	9.258	Negative
10	2.301	4.135	9.513	Negative
11	2.276	4.018	9.146	Negative
12	2.282	4.000	9.129	Negative
13	2.294	4.018	9.220	Negative
14	2.448	4.000	9.791	Negative
15	2.331	4.037	9.411	Negative
16	2.319	4.031	9.347	Negative
17	2.258	3.982	8.989	Negative
18	2.258	3.969	8.961	Negative
19	2.626	3.933	10.326	Negative
20	2.613	3.988	10.422	Negative
21	2.368	3.822	9.051	Negative
22	2.276	4.086	9.300	Negative
23	2.822	4.018	11.340	Neutral
24	2.276	4.006	9.118	Negative
25	2.337	4.018	9.393	Negative
26	2.436	3.963	9.653	Negative
27	2.325	4.018	9.343	Negative
28	2.313	3.926	9.081	Negative
29	2.325	4.092	9.515	Negative
30	2.387	4.061	9.692	Negative
31	2.344	3.982	9.331	Negative
32	2.540	3.969	10.082	Negative
33	2.730	4.166	11.372	Neutral
34	2.368	4.037	9.560	Negative
35	2.847	3.994	11.369	Neutral
36	2.245	3.957	8.885	Negative
37	2.270	3.920	8.899	Negative
Total (ΣAo)			355.871	Negative

Based on Tables 13 to 17, it can be seen that by using the fishbein method, the attitudes of passengers arriving at Gubeng Station Tables 15 and Gubeng Lama Station respondents Tables 17 showed "Negative" results. These results are the same as the results using the CSI method when combined, it can be seen that passenger attitudes towards intermodal at Gubeng Station are "neutral".

I. Quality Improvement Priorities

Determining priority attributes for improvement needs to be carried out immediately in order to create a public transportation system that is more effective, efficient and meets community needs. The researcher's consideration of the priority attributes for improvement is carried out in the following way :

- Priority attributes are sorted using the Gap Analysis method,
- The IPA method quadrant mapping is carried out on the attributes that fall into the Quadrant 1 category,
- The respondents who felt the most dissatisfaction were selected, namely arrival train passenger respondents at Gubeng Station and respondents in Old Gubeng Station using the CSI method,
- Respondents who had the most negative trait values were selected, namely arrival train passenger respondents at Gubeng Station and respondents from Old Gubeng Station using the Fishbein method.

The following results of quality improvement priorities can be seen in Table 18.

Table 18 Repair and improvement priority attributes

Ranking	Attribute	Statement	Gap	IPA	CSI		Fishbein	
					From Sby	Old Gubeng	From Sby	Old Gubeng
1	22	Optimal public transport operating hours (short distance between transport)	-1.944	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
2	9	Travel time to the destination using public transportation	-1.934	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
3	8	Speed and punctuality of public transportation, both to and from the station	-1.927	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
4	3	There is connectivity between train schedules and advanced public transportation modes	-1.901	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
5	7	Waiting time for connecting public transportation	-1.855	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
6	29	Facilities are available that can help passengers move goods when they want to change modes of transportation (goods trolleys, porters, etc.)	-1.845	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
7	10	Responsiveness of officers offering informational assistance in changing modes of transportation	-1.835	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
8	4	Accuracy of public transport departure and arrival schedules	-1.818	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
9	16	Distance from Gubeng Station to where public transportation is located	-1.809	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
10	15	There are adequate comfort facilities (fans, air conditioning, roofs) on public transportation routes	-1.799	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
11	34	Ease of getting further public transportation	-1.799	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
12	27	Support facilities are available for people with disabilities when changing modes	-1.799	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
13	1	There is a further public transportation service after getting off from Gubeng Station	-1.776	Quadrant 1	Less satisfied	Less satisfied	Negative	Negative
14	30	Availability of directional signs to the location of the transfer mode of transportation	-1.749	Quadrant 1	Quite satisfied	Less satisfied	Negative	Negative
15	36	Vehicle access in and out of Gubeng Station is smooth/not congested	-1.871	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
16	18	Readiness of officers to assist passengers in changing modes of transportation	-1.799	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
17	11	Speed of service in responding to user complaints and problems in changing modes of transportation	-1.795	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
18	17	There is good cooperation from PT. KAI and Dishub Surabaya in providing good transportation mode transfer services	-1.782	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
19	24	Schedule information and public transport routes are available offline	-1.779	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
20	25	Clean and comfortable bus stop facilities are available	-1.776	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
21	12	There is sufficient lighting on the routes of public transportation	-1.762	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
22	13	There are officers or CCTV cameras available to monitor the situation on the transportation route	-1.759	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
23	37	There is a special lane for public transportation for boarding and alighting passengers	-1.752	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
24	28	There is a special pedestrian lane for changing modes of transportation	-1.690	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
25	31	The station is easily accessible by using the Surabaya Bus or Trans Semanggi Bus	-1.680	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative

26	5	The ability of Gubeng Station officers to provide information related to changing modes of transportation to users	-1.677	Quadrant 2	Quite satisfied	Quite satisfied	Negative	Negative

Ranking	Attribute	Statement	Gap	IPA	CSI		Fishbein	
					From Sby	Old Gubeng	From Sby	Old Gubeng
27	14	Crossing facilities are available (zebra crossing, JPO, pelican crossing, etc.) on public transportation transfer routes	-1.637	Quadrant 4	Quite satisfied	Less satisfied	Negative	Negative
28	6	Location of suitable transportation modes	-1.630	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative
29	21	Location information and directions for onward transportation are easy to see and read	-1.604	Quadrant 3	Less satisfied	Less satisfied	Negative	Negative

CONCLUSIONS

1. All attributes have a negative gap value, that is the level of satisfaction is smaller than the level of expectations.
2. Using the IPA method, there are 14 attributes that require special attention, where passengers want public transportation that they can rely on, such as short headways between transportation, scheduled travel times, consistency in schedules, waiting times, and schedule connectivity in transportation. The availability of facilities that can help passengers to transfer to the next transportation comfortably, such as luggage trolleys, roofs, fans or air conditioners, and facilities to support people with disabilities such as ramps, guiding blocks, wheelchairs and special parking. Gubeng station also requires directional signs both inside and outside the station with special officers designated to serve passengers by providing information on existing intermodal options and helping them change modes.
3. The overall satisfaction level of intermodal at Gubeng Station using the CSI method of respondents was 0.523, which means passengers felt "quite satisfied" with intermodal at the old and new Gubeng Station. In the analysis carried out on 5 types, the results obtained were that respondents from arriving train passengers at Gubeng and Old Gubeng Stations felt "less satisfied" with intermodal services at Old and New Gubeng Stations with the following details:
   a. CSI results: Respondents from arriving train passengers at Gubeng Station felt "less satisfied" with intermodal services at Gubeng Station with 27 attributes falling into the "less satisfied" category, compared to respondents departing at Gubeng Station who felt "quite satisfied" with intermodal services at Gubeng Station.
   b. CSI results: Old Gubeng respondents felt "less satisfied" with intermodal services at Gubeng station with 29 attributes falling into the "less satisfied" category, compared to new Gubeng respondents who felt "quite satisfied" with intermodal services at Gubeng Station.
4. Then, using the fishbein method, the results obtained were 417.335, the value was in the interval 392.21-569.80, which means that passenger attitudes were "neutral" with intermodal services at the old and new Gubeng Stations. Same with CSI method, in the analysis which was carried out in 5 types, the results obtained were that arrival train passenger respondents at Gubeng Station and old Gubeng attitude were "negative" with the intermodal services at the old and new Gubeng Stations.
5. Increasing intermodal satisfaction at Gubeng Station, especially the old Gubeng Station, can be carried out with the following priorities:
   - There needs to be a study regarding headway, travel time, schedule consistency, and waiting time on public transportation,
   - There is a need for priority lanes and implementing special traffic signals for public transport,
   - The availability of directional signs inside and outside Gubeng Station provides clear information regarding intermodal,
   - There needs to be special attention to the connectivity of train schedules with advanced public transportation,
   - Rooftop facilities are available, and facilities to support people with disabilities (such as ramps, guiding blocks, wheelchairs, special parking, and officers who are ready to help with directions),
   - Providing special stops or special public transportation with easy access at stations,
   - There is a need to recruit officers who work specifically to serve passengers, providing information on existing intermodal options and helping them change modes.
6. Then to increase intermodal satisfaction especially the new Gubeng Station, this can be done with the following priorities:
   - There needs to be a study regarding headway and waiting times on nearby public transport,
   - The availability of directional signs inside and outside Gubeng station provides clear information regarding intermodal,
   - There needs to be special attention to the connectivity of train schedules with advanced public transportation,
   - Rooftop facilities are available, and facilities to support people with disabilities (such as ramps, guiding blocks, wheelchairs, special parking, and officers who are ready to help with directions),
   - There is a need for lighting and other comfort facilities on transportation routes.

- There is a need to recruit officers who work specifically to serve passengers, providing information on existing intermodal options and helping them change modes.

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