Evaluating Airport Passenger Terminal Service: Type A Standards

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ABSTRACT

Terminal is a major node in a network which are collections of the overall trajectory. But now the existence of a passenger terminal does not function effectively, it is seen from the low utilization by the user terminal transport services. Hence, the aim in this study was to evaluate airport terminal service against type A standards. This study was conducted at the Passenger Terminal Type A Tirtonadi Surakarta using descriptive and quantitative research methods, with a sample size of 355 people. Data were collected through an instrument in the form of sheets of questions with Likert scale models that have been tested. The study used the analytical techniques Importance Performance Analysis. Results of the first study, it was concluded that the quality of service in Terminal Tirtonadi ie 81.41 are on service quality category B with satisfactorily. Second, the level of conformity Terminal services Tirtonadi not met the expectations of service users. Thirdly, it was concluded that the services are a top priority for improvement is the safety information that is easy and clear, the Internet network facilities, battery charging facilities, waiting room, and the arrival and departure of vehicles as well as the tariffs of public vehicles.

Keywords : *Importance Performance Analysis; Performance Tirtonadi Terminal*

A. Introduction

Based on the mandate of Act No. 23 of 2014 on Regional Government that the management of the passenger terminal type A shift from local government to the central government, in this case the Ministry of Transportation. One is the management of Passenger Terminal Type A Tirtonadi Surakarta. Passenger Terminal Type A Tirtonadi Surakarta is a terminal located at coordinates 7 ° 33'06.3 " south latitude and 110 ° 49,10.6" east longitude. The terminal is located in downtown Surakarta and close to the shopping center so indirectly Terminal Tirtonadi become economic drivers for the tourism community and Surakarta. During this time, the paradigm of the community will be the terminal is synonymous with disorder and atmosphere tends shabby, uncomfortable and unsafe. Efforts to increase through the improvement and construction of buildings and facilities in the terminal are being implemented with a view to improving quality of service in order to align with the airport / train station to create security, safety and convenience of the users of services in the terminal. Hopefully, by the construction and rehabilitation of the terminal can change society's view of the terminal. Construction and rehabilitation of the passenger terminal type A Tirtonadi make a new face for the terminal Tirtonadi. Currently, the terminal becomes increasingly clean, orderly, safe, comfortable and orderly. However, it has not been able to attract people to use public transport and they also found the behavior of service users who do not fit in the utilization of existing terminal facilities.

This indicates that the terminal is not optimal services that need to be evaluated against the terminal service standards on an ongoing basis. research aim are: (1) measuring the level of satisfaction of the services provided by the Passenger Terminal Type A Tirtonadi Surakarta to the user

terminal, (2) knowing the services provided Passenger Terminal Type A Tirtonadi has fit between the quality of service expected by the quality of service received by the user terminal services and (3) knowing the terminal service indicators that are considered important and priority by the user terminal services.

B. Literature Review

Reference studies based on Law No. 22 Year 2009 on Road Traffic and Transport and Communications Minister Regulation No. 40 Year 2015 on the Implementation Service Standard Terminal Transportation. Previous research studies referenced this study include.

Table 1 Previous Research

No.	Researcher Name, Year	Indicators & Methods
1	(Maskan, Suparlan, Utaminingsih, & Djajanto, 2014)	reliability, responsiveness, assurance, empathy, and tangible, descriptive statistical analysis
2	(Mentari & Ritohardoyo, 2015)	Quality of service, reliability, responsiveness, assurance, empathy, and tangible, Descriptive analysis method
3	(Silva, Sulistio, & Abusini, 2015)	44 variable service, IPA method, QFD, Regression
4	(Idrus, Shadiq, & Arifin, 2015)	4 indicators of service: operation, management information systems, human resources and broad needs of terminal facilities. Methods of analysis: IPA and the importance terminal
5	(Salam, Anggraeni, & Ummi, 2017)	Using the five dimensions of Reliability, Responsiveness, Assurance, Empathy, and Tangible. IPA analysis methods and CSI
6	(Chikita, Djakfar, & Anwar, 2018)	Variable terminal services with 35 service items, IPA method, QFD, queue Fifo
7	(Fitriana, 2017)	Accessibility, efficiency levy, integration, capacity, regularity, safety, comfort, kesetetaraan, smooth and fast
8	(City & Muzakki, 2018)	Variable safety, security, order, convenience, Analytical methods parking, parking capacity analysis, time analysis services, IPA analysis, SWOT Analysis
9	(Putra, Wicaksono, & Kusumaningrum, 2018)	Variable: convenience, safety, security, reliability, location. The method of analysis is the analysis of the suitability of the terminal facilities, IPA and SWOT
10	(Balaka, La Ode, & Gumelar, 2018)	The method used is CSI, IPA and multiple linear regression. Indicators of research using five dimensions namely tangible, reliability, responsiveness, assurance and empathy

C. Research Methodology

To measure the quality of services performed by comparing Tirtonadi terminal services that have been received by the service user terminal with expected service terminal services users. Research conducted on 355 respondents terminal services users. The research sample was calculated using proportional stratified random sampling technique based on the formula Slovin with an error rate of 5% and to improve the quality of data, samples used plus 10% of the minimum number of sample members. Data collection techniques using observation, questionnaires, interviews, documentation and literature. Service indicator used is based upon Permenhub No. 40 of 2015, as follows:

Table 2. Indicator Terminal Service

No.	Service Indicators
	Safety
1	Availability that minimizes pedestrian lane crossing by motor vehicle
2	The availability of road safety facilities (signs, markings, street lighting, fencing)
3	Availability of evacuation
4	The availability of fire extinguishers
5	Availability of postal facilities and health workers
6	Availability of postal facilities and public transport airworthiness inspectors
7	Availability of public transport facilities mild improvement
8	Availability of information safety facilities, evacuation route instructions and easy rallying point and clear
9	Information health facilities easy and clear
10	Information inspection facilities and minor repairs of motor vehicles easier and clearer
	Security
11	Availability of postal security and surveillance cameras and certain security point
12	Availability of a sticker in a strategic place, easily visible and clearly legible
13	Availability of the security forces, at least 2 uniformed and easily visible
	Realiability / Regularity
14	Availability of arrival and departure of vehicles and the amount of public motor vehicle tariff in writing together with the realization of a written schedule
15	Availability of public transport fares in public transport stretch further and further along the route is not the realization of a written schedule
16	Ticket booths and regularly
17	There organizer office terminal, control room and SIM terminal
18	The availability of terminal operations officer who set terminal operations
	Convenience
19	In the waiting room: the availability of seats, area 100% clean, airy and not smell coming from the terminal area

No.	Service Indicators
20	The toilet was clean and did not smell coming from the terminal area
21	Amenities worship / prayer house was clean and did not smell coming from the terminal area
22	There are green open space, there are cleaning tools, watering plants, separate bins between dry and wet garbage
23	Availability of a restaurant / cafeteria
24	The availability of facilities and janitor
25	The availability of the vehicle crew rest area
26	The availability of a smoking area
27	The availability of adequate drainage
28	The availability of the Internet network facilities
29	Availability of the reading room
30	The availability of indoor lighting
	Ease/Affordability
31	The layout of the vehicle lane departure and regularly
32	The layout of the arrival path and regularly
33	Information services (plan, schedule, tariff, network maps) were placed in a strategic place, easily visible and clearly legible
34	Advanced transport information easily visible and clearly legible
35	Information AKAP bus travel disruption is announced maximum of 10 minutes after disruption and clear sound
36	Available deposit box
37	There battery charging facility
38	Ease place up / down passenger
39	The availability of public and private vehicles parking
	Equality
40	Availability of the disabled facilities
41	Availability of space breastfeeding mothers and babies

Weight of assessment to measure the level of interest and the level of satisfaction using a Likert scale as follows:

Table 3 Weight Assessment in Likert Scale

Importance (Importance Analysis)	Satisfaction (Performance Analysis)	Value
Very important	Very satisfied	5
Important	Satisfied	4
Indifferent / Neutral	Indifferent / Neutral	3
Not too important	Less satisfied	2
Not important	Not satisfied	1

Source: Wijaya (2011)

The data have been processed in the analysis of service quality passenger terminal type A Tirtonadi received by the user terminal services. The size of the quality of service by the service user terminal using the Customer Satisfaction Index (IKP).

Customer Satisfaction Index (IKP) can be calculated using the formula:

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

$$IKP = \frac{\text{Total score dimension}}{\text{number of respondents}}$$

In determining the level of suitability of these two variables are calculated, the variable X representing the terminal service user satisfaction levels and Y representing the interests of service users terminal, level formula used is as follows (Supranto, 2011)

Tki = Level Compliance Respondents
Xi = Score Performance Assessment
Yi = Score Interests ratings

Processing of data by using Importance and Performance Analysis (IPA), the respondents were asked to rate the level of importance and the level of performance on the attributes of quality of service terminal at the passenger terminal type A Tirtonadi Surakarta, where the X axis represents the perception and the Y axis represents the expectations of service users that will the results obtained in the form of four quadrants according to the image below.

Figure 1 Importance and Performance Analysis

Explanation of the importance Cartesian diagram analysis and performance attributes of each service consist of four quadrants. Quadrant A is the area that contains attributes that are considered important by the user, but in reality these attributes are not as expected (level of customer satisfaction is still very low). In this area the manager make improvements on an ongoing basis in order to increase performance in this quadrant. Quadrant B is an area that contains attributes that are important to users and attributes that are considered by users is in conformity with the perceived thus a relatively high level of satisfaction. Quadrant C is the area that contains the attributes considered less important by users and the fact that its performance is less special. Quadrant D is an area that contains attributes that are considered less important by the user and perceived excessive.

D. Results and Discussions

a. Validity and Reliability Test Results

Validity test results of each item question on 30 questionnaires at the 5% significance, the value of r table at 0,361 indicates that the correlation coefficient of 41 items of questions is greater than the critical value so that declared valid. Research data reliability test results showed that the level of satisfaction of Cronbach's Alpha 0.948 > 0.70 so otherwise reliable.

b. Terminal Services User Satisfaction Levels

The calculation result of research data on the terminal service user

satisfaction in each type of service is as follows:

Table 4 Customer Satisfaction Index (IKP) Terminal Services Tirtonadi based Terminal Services User Perception

Kind of service	IKP	IKP Conversion	Service Quality Performance
Safety	4,06	81,20	satisfy
Security	4,08	81,60	satisfy
Reliability / Regularity	4,08	81,60	satisfy
Convenience	4,06	81,20	satisfy
Ease / Affordability	4,07	81,40	satisfy
equality	4,14	82,80	satisfy
Average	4,08	81,63	satisfy

From the Table 4, it can be seen that the level of user satisfaction Tirtonadi terminal services amounted to 81.63 with satisfactory service category and are in the value of service B.

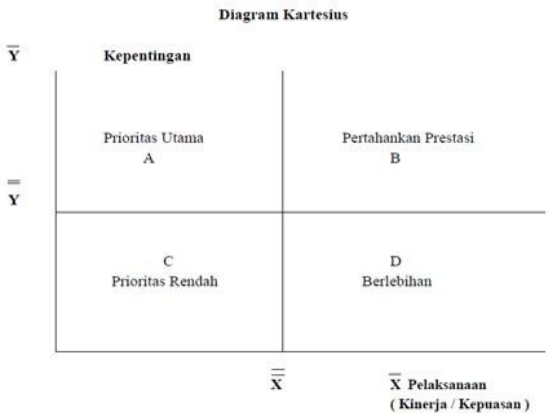

Figure 2 Diagram Cartesian Cartesian

c. Level of Compliance

Level measurement is used to determine the suitability of large sebesarapa terminal services users are satisfied with the service terminal and how the organizers understand what is desired terminal service user terminal to terminal service standards. Table 5 shows calculation Terminal Tirtonadi suitability level of service as follows.

Table 5 Level of Conformity Terminal Services Tirtonadi

No Indicator	*Scores Importtance*	*Scores performance*	Conformiy Level (%)	Priority
28	4.27	3.77	88.38	1
19	4.33	3.85	89.06	2
37	4.27	3.87	90.51	3
14	4.29	3.92	91.40	4

No Indicator	*Scores Importtance*	*Scores performance*	Conformiy Level (%)	Priority
15	4.25	3.94	92.58	5
29	4.18	3.89	93.05	6
41	4.42	4.13	93.44	7
36	4.24	3.97	93.82	8
26	4.25	4.00	94.11	9
1	4.09	3.87	94.56	10
8	4.29	4.06	94.69	11
40	4.37	4.14	94.72	12
10	4.09	3.88	94.91	13
7	4.19	3.98	95.09	14
16	4.38	4.17	95.17	15
21	4.39	4.18	95.19	16
12	4.17	3.97	95.20	17
38	4.11	3.92	95.54	18
34	4.25	4.06	95.56	19
27	4.30	4.12	95.80	20
17	4.37	4.19	95.81	21
31	4.31	4.14	95.95	22
30	4.29	4.12	96,00	23
9	4.32	4.15	96.09	24
11	4.30	4.14	96.20	25
23	4.30	4.14	96.27	26
22	4.18	4.03	96.29	27
18	4.36	4.20	96.36	28
20	4.37	4.23	96.78	29
13	4.27	4.14	96.84	30
39	4.26	4.13	96.96	31
3	4.11	4.00	97.33	32
24	4.28	4.17	97.38	33
33	4.25	4.15	97.61	34
2	4.17	4.07	97.70	35
4	4.25	4.17	98.08	36
5	4.28	4.20	98.22	37
32	4.28	4.22	98.49	38
6	4.21	4.16	99.00	39
35	4.21	4.18	99.26	40
25	4.25	4.22	99.27	41

From Table 5 the level of conformity to all service users terminal service indicator is less than 100% so that the quality of services provided less / does not meet what is considered important by the user terminal services. The first priority on the availability of facilities services indicator internet network with 88.38% concordance rate so that the indicator terminal organizers should improve performance so far given. The highest priority has a concordance rate of 99.27% on the service indicatoravailability of vehicle crew rest area.

d. Method Cartesian Diagram with IPA

To create a degree Cartesian research data on each indicator terminal services

using Importance Performance Analysis (IPA) required an average score of any service indicators that indicate the quality of service expected service user terminal (importance) and the quality of service received by the service user terminal (performance). Cartesian diagram is as shown Figure 3 as explanation on each quadrant of service.

1. Quadrant A

Indicators are located in this quadrant needs to be prioritized because of the presence of this indicator is considered very important while a given level of performance has not been satisfactory. There are five (5) indicators which entered service in quadrant A, namely: (a) availability of information safety facilities, evacuation route instructions and easy rallying point and clear (8), (b) availability of arrival and departure of vehicles as well as the tariffs of public vehicles in writing together with the realization of the schedule in writing (14), (c) the availability of seats, area 100% clean, airy and not smell coming from the terminal area (19), (d) the availability of the Internet network facilities (28) and (e) battery charging facilities available (37).

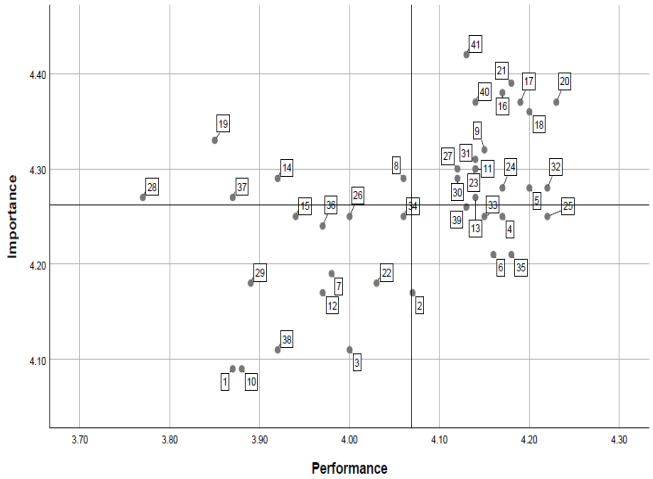

Figure 3 Cartesian Diagram Terminal Service Indicator Tirtonadi

2. Quadrant B

In this quadrant service quality needs to be maintained because of the level of performance has been in line with expectations of service users terminal so as to provide satisfaction for service users. There are 17 service indicators included in quadrant B, among others: (a) availability of postal facilities and health workers (5), (b) information is easy and obvious health facilities (9), (c) availability of postal security and surveillance cameras and certain security points (11), (d) availability of the security forces, at least 2 uniformed and easily visible (13), (e) ticket booths and regularly (16), (f) there organizer office terminal, control room and SIM terminal (17), (g) the availability of terminal operations officer who set up the operational terminal (18), (h) the toilet was clean and did not smell coming from the terminal area (20), (i) amenities worship / prayer house was clean and did not smell coming from the terminal area (21), (j) availability of a restaurant/ cafeteria (23), (k) the availability of facilities and cleaners (24), (l) the availability of adequate drainage (27), (m) the availability of indoor lighting (30), (n) the layout of the vehicle lane departure and regularly (31), (o) the layout of the arrival path and regularly (32), (p) handicapped facilities available (40), and (q) availability of space breastfeeding mothers and babies (41).

3. Quadrant C

Shows that the indicators that affect the user's terminal services Tirtonadi considered less important for service users, while the quality of services provided by the manager of a regular terminal/ enough. There are 12 service indicators in quadrant C, among others: (a) availability that minimizes pedestrian lane crossing to motor vehicles (1), (b) availability of evacuation (3), (c) availability of public transport facilities mild improvement (7), (d) information inspection facilities and minor repairs of motor vehicles easier and clearer (10), (e) availability of a sticker in a strategic place, easily visible and clearly legible (12), (f) availability of public transport fares in public transport stretch further and further along the route is not in the realization of the schedule in writing (15), (g) there are green open space, there are cleaning tools, watering plants, bins are segregated dry waste and wet (22), (h) the availability of a smoking area (26), (i) availability of the reading room (29), (j) advanced transport information easily visible and clearly legible (34), (k) there are day-care items (36) and (l) ease place up / down passenger (38).

4. Quadrant D

Shows that the indicators that affect the terminal service user satisfaction Tirtonadi considered excessive in its performance, because the service user terminal considers less important to their indicators, but the performance of a given good organizer Tirtonadi terminal once so highly satisfying user terminal services. There are 7 indicators in quadrant D services, among others: (a) the availability of road safety facilities (signs, markings, street lighting, fencing) (2), (b) the availability of fire extinguishers (4), (c) availability of postal facilities and public transportation airworthiness inspectors (6), (d) the availability of vehicle crew rest area (25), (e) information services (floor plans, schedules, fares, network maps) were placed in strategic places, easily visible and clearly legible (33), (f) information AKAP bus travel disruption is announced maximum of 10 minutes after disruption and clear sound (35) and (g) the availability of public and private vehicles parking (39).

E. Conclusions

Minimum Service Standards Passenger Terminal has been set in the Minister of Transportation Number 40 Year 2015 that includes safety services, service security, service reliability, service convenience, ease of service and service equality. To measure the quality of service terminal using 41 indicators. From the results of analysis show that the quality of service that can be provided by the organizers of the terminal is 81.41% which is in the quality of service interval B with satisfactory performance. This means, the user terminal services was happy with the services already provided organizer terminal. The result of the calculation of the degree of correspondence between the level of interest and the level of service satisfaction Terminal Tirtonadi shows that the level of conformity on all service indicators (41 indicators) below 100%, this means that the service provided is less / not meet what is considered important by the user terminal services. Results of the analysis showed 5 IPA method in quadrant A service indicator, service indicator 17 in quadrant B, 12 service indicators in quadrant C, and 7 indicators in quadrant D. Indicators terminal services that require priority handling among others: (a) availability of information safety facilities, evacuation route instructions and easy rallying point and clear (8), (b) availability of arrival and departure of vehicles as well as the tariffs of public vehicles in writing together with the realization of the schedule in writing (14), (c) the availability of seats, area 100% clean, airy and not smell coming from the terminal area (19), (d) the availability of the Internet network facilities (28) and (e) battery charging facilities available (37).

In the main facilities that require priority handling terminal is information safety facilities, evacuation route instructions and a rallying point, arrival and departure of vehicles as well as the tariffs of public vehicles and passenger waiting room. While

the supporting facilities which require priority handling internet network facilities and battery charging facilities. Facility services that require priority handling is not too impact on the performance of existing terminal at this time.

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