

Review Article

Minimum Service Standard Evaluation in Penataran Train Journey on Passenger Satisfaction Level

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Abstract - Economy class trains are still an option for people who travel between cities. However, sometimes such problems are obstructing as schedule delays and complaints against passenger capacity so that the public trust to use the facility is reduced. The purpose of this study was to determine the difference between the value of expectations and passenger reality in the form of servqual values, passenger satisfaction levels after using the train, and SPM conditions based on the research dimensions. The data were collected using questionnaires to 400 respondents. The data were analyzed using the servqual method. The conclusion is that the servqual value is obtained in each dimension, namely, measurable evidence -0.62, reliability -0.54, responsiveness -0.54, assurance -0.60, and -0.49 empathy. The average actual servqual score is 83.87% of the passenger expectation value before boarding the train. The lowest SPM condition that needs to be improved is the reliability dimension with an actual servqual score of 82.45%.

Keywords: *Servqual, Local Economy Class Train, Minimum Service Standard, Facility*

I. PRELIMINARY

The role of public transports in carrying the passenger's flow is the pivot of the people's movement. If the transportation sector is disrupted, then the movement will be stalled and thus reduce the productivity of the community. Railways, especially economy class, are still an option for people who travel outside the city. Government-subsidized fares, opportunity to stop at class 3 stations (for local trains) and increasingly convenient facilities are some public's reasons to use economy class trains. However, sometimes problems occur, such as schedule delays and complaints against passenger capacity so that the public trust towards these facilities is reduced. This is due to the level of service and operation of the trains.

The aim of this research is: a) Calculating the value of passengers expectations and reality against the Minimum Service Standards for the Penataran Train through the

servqual method b) Analyze the condition of the minimum service standards for the Penataran Train based on the research dimensions c) Calculating the score of public satisfaction with the Penataran Train after using it compared to before using the train.

II. LITERATURE REVIEW

A. Local Trains

A local train is a train journey for a certain area and also stops at almost all stations it passes. Usually, local train ticket prices are relatively affordable because there is a subsidy from the government, in this case, regulated in the Decree of the Minister of Transportation Number KP. 1110 of 2017 concerning the Assignment of PT Kereta Api Indonesia (Persero) to Organize Public Service Obligations for Public Transportation of People Using Economy Class Trains for the 2018 Fiscal Year.

B. Minimum Service Standard

Minimum service standards are the most basic things that service providers must meet service users. Minimum service standards for travel as referred to in PM No.63 of 2019 include at least safety, security, reliability, comfort, convenience, and equality.

C. Sampling Method

Arikunto (2006) argues that the population is the entire research subject. There are few obstacles found in large-sized population when they are collected, recorded and analyzed, as well as less thoroughness. By sampling, the number of objects that must be observed becomes smaller. A sample is a part of the population that has a certain number and characteristics (Sugiyono, 2007).

Probability sampling is a sampling method in which each member of the population has the same chance of being selected as the sample. Non-Probability sampling means that the value of a member of the population has a zero chance. In other words, sampling has certain criteria in the form of judgment, quantity status, and volunteerism. The formula for determining the number of samples for the population is as follows.



$$n = \frac{N}{1 + [N \times (e^2)]}$$

Notes :

n = Sample

N = Population

e = Margin of error (5%)

D. Questionnaire

Arikunto (2006) states that a questionnaire is a method of collecting data by giving questions or written statements to respondents. Quantitative data analysis is based on the value according to the questionnaire results. The questionnaire is an efficient way of collecting data when the researcher knows exactly what variables to measure and the expected results from the respondent.

E. Validity Test

A validity test is used to determine the feasibility of the questionnaire items in a variable. The items in the questionnaire will support certain variables related to the research variables. When the value of r table is smaller than the calculated r-value, the question item is considered valid (Sujarweni, 2007).

$$r_{xy} = \frac{N \sum XY - (\sum X) \times (\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2] \times [N \sum Y^2 - (\sum Y)^2]}}$$

Notes :

r_{xy} = The correlation coefficient between the question item value and the total score

N = number of subjects

X = number of question items

Y = number of total values

XY = The sum of the multiplication of the value of the question items by the total value

X^2 = The sum of the squares of the question item values

Y^2 = The sum of the squares of the total score

F. Reliability Test

Reliability test is a measure of the stability and consistency of the respondent when answering questions related to the dimensions of the research variables. Reliability assesses the extent to which related measurement results can be trusted, meaning that the score from the measurement results is free from measurement errors. The reliability value is shown empirically by the reliability coefficient (Sujarweni, 2007).

The formula used is:

$$r = \left[\frac{k}{k-1} \right] \left[1 - \frac{\sum S_i}{S_t} \right]$$

Notes :

r = Reliability Value

k = number of items/items or number of questions

S_i = The sum of the variance of each item

S_t = Total Variance

III. RESEARCH METHODS

A. Methods Of Collecting Data

The data collection method is useful as a source of information in research. The survey method used is in the form of a questionnaire to measure the level of public satisfaction. The selected questionnaire adapts to the servqual method to measure the difference between passenger expectations and the reality of the services provided. The data is collected, due to unfeasible conditions, by filling out a questionnaire from the passengers of the Penataran Train via a google form.

B. Data Processing Methods

After the respondents' data was collected, the next step was grouping the data according to the question items in the questionnaire by combining the five indicators in the servqual and research items that are adjusted to the dimensions according to PM Number 63 of 2019. The questionnaire used the Likert scale. The Likert scale is used to measure attitudes, opinions and perceptions of a person or group of social events or symptoms that are combined to form a score/value that represents individual characteristics, for example, knowledge, attitudes and behaviour (Singarimbun and Efendi, 2012).

C. Service Quality (Servqual) Method

Service Quality (Servqual) is used to determine quality criteria related to service quality based on the difference between customer expectations and reality. Servqual is the method most widely used in calculating validity requirements. Servqual score for each statement, for each customer t, is calculated based on the formula below (Zeithaml et al., 1990 in Tjiptono and Chandra, 2011):
 Servqual score = reality score - expected score
 Once revealed, the scores of satisfaction for each indicator will be determined by calculating the Actual Servqual Score with the following formula.

$$Score = \frac{reality\ score}{expected\ score} \times 100\%$$

D. Data Analysis Method

In conducting data analysis, using a formula to determine the scores of expectations and reality will result in scores for each dimension of the research (Boone, 2012).

$$Th = \frac{(H1 \times 1) + (H2 \times 2) + (H3 \times 3) + (H4 \times 4)}{N}$$

Apart from determining the expected scores, there is also a formula for determining the real value.

$$Tp = \frac{(P1 \times 1) + (P2 \times 2) + (P3 \times 3) + (P4 \times 4)}{N}$$

IV. RESULTS AND DISCUSSION

A. Survey Analysis of Preliminary Surveys

The rating survey regarding respondents' attitudes towards the scores of expectations and the reality in using the Penataran Training was carried out on a 4-scale Likert scale, namely strongly agree, agree, usual, disagree, and strongly disagree. The survey data on the expected scores were analyzed using the following scales: Very important (4), Important (3), Not important (2), Very insignificant (1). While the data for reality values used the following scale: Very satisfying (4), satisfying (3), unsatisfactory (2), and very unsatisfactory (1). In testing the validity of the statement of the expected scores on 40 samples, it produces data (Suharjanti, 2014).

Tabel 1. Expectation Scores

Statement	Corrected item-total correlation	Result
A1	.801	Valid
A2	.771	Valid
A3	.634	Valid
B1	.762	Valid
B2	.649	Valid
B3	.685	Valid
C1	.788	Valid
C2	.740	Valid
C3	.679	Valid
D1	.644	Valid
D2	.638	Valid
D3	.767	Valid
E1	.757	Valid
E2	.739	Valid
E3	.418	Valid

Tabel 2. Validity Scores

Statement	Corrected item-total correlation	result
A1	.598	Valid
A2	.681	Valid
A3	.886	Valid
B1	.792	Valid
B2	.807	Valid
B3	.619	Valid
C1	.819	Valid
C2	.760	Valid
C3	.604	Valid
D1	.743	Valid
D2	.723	Valid
D3	.860	Valid
E1	.818	Valid
E2	.818	Valid
E3	.353	Valid

The calculation of the reliability analysis was carried out using the SPSS for Windows program, then the Cronbach alpha (a) coefficient was obtained. At SPSS, the alpha value that fulfils is 0.925. In testing the validity of the statement of the scores of reality for 40 samples, the calculation of reliability analysis was carried out using the SPSS for Windows program. The Cronbach alpha (a) coefficient was obtained. At SPSS, the alpha value that fulfils is 0.937.

B. Expectation and Reality Scores of Each Research Dimension

To get the expected scores of the minimum service standard satisfaction in the Penataran Train will be carried out on each assessment item and calculate the average passenger rating. The data from the expected scores are as follows.

Table 3. Expectations and Reality Scores

No	Dimension	Hope Value	Reality Value
1	Bukti Terukur	3,62	3,00
2	Kehandalan	3,59	2,96
3	Daya Tanggap	3,55	3,01
4	Jaminan	3,64	3,04
5	Empati	3,44	2,95

C. SERVQUAL Score And Actual Servqual Score

Assessment of service quality is intended to determine the priority of corrective actions PT. Kereta Api Indonesia should execute in order to get an improvement in service performance. The assessment is obtained from the calculation of the reality and the expected scores of each item.

Table 4. Servqual values

No	Dimension	Hope Value	Reality Value	Servqual Value	Actual Servqual Score
1	Measurable Evidence	3,62	3,00	-0,62	82,87%
2	Reliability	3,59	2,96	-0,63	82,45%
3	Responsiveness	3,55	3,01	-0,54	84,78%
4	Guarantee	3,64	3,04	-0,60	83,51%
5	Empathy	3,44	2,95	-0,49	85,75%

V. CONCLUSION

From the results of the analysis previously discussed, it can be concluded that:

1. The value of expectations, perceptions and services of passengers for each dimension are:
 - a. Measurable evidence
The expected score of the measured evidence dimension is 3.62, while the real score is 3.00, and the servqual value is -0.62.
 - b. Reliability
The expected value for the reliability dimension is 3.59, while the real value is 2.96, and the servqual value is -0.54.
 - c. Responsiveness
The expected value for the responsiveness dimension is 3.55, while the real value is 3.01, and the service value is -0.54.
 - d. Guarantee
The expected value for the guarantee dimension is 3.64, and the real value is 3.04, while the servqual value is -0.60.
 - e. Empathy
The expected value for the empathy dimension is 3.44, while for the real value is 2.95, while the servqual score itself is -0.49.
2. The negative score of servqual indicates the difference between the expected and reality scores. Higher expected scores in all dimensions mean that there is a decrease from the expectation after boarding the train and prior to boarding. The greater difference means lower reality scores assessed by passengers after using the train.
3. The score of ASC KA Penataran was 83.87%. This result shows that the fulfilment of the Penataran train service as a whole has met 83.87% of passenger expectations compared to before using the train.
4. Servqual value generated the level order of service quality on these five dimensions. Passengers have views on the dimensions that are considered satisfied, the level of satisfaction is in accordance with the following order: Empathy, Responsiveness, assurance, measurable evidence, and reliability

5. With the minimum service, standard conditions reached 83.87% of passenger expectations, level of passengers' satisfaction have met the standards set by PM No.63 of 2019. A number of improvements are necessary, especially in the reliability dimension, which has the

lowest satisfaction scores of the desired expected score before using the train, which includes:

- a. Equal services towards the passenger
- b. Trip time conformity
- c. Dwell time conformity at stations

REFERENCES

- [1] Arikunto, S. (2006). "Research procedure: A practice Approach". Jakarta. Rineka Cipta
- [2] Boone, H.N. & Boone, D.A. (2012). Analyzing Likert Data. The Journal of Extension. 50. 1-5. <https://joe.org/joe/2012april/tt2.php>.
- [3] Minister of Transportation RI. (2019). "Regulation of the Minister of Transportation Republik Indonesia Number PM". 63 Tahun 2019 Regarding minimum service standards for people by train
- [4] Sugiyono. (, 2007). "Qualitative, quantitative research Methods and R&D. Bandung: Alfabeta".
- [5] Sujarweni, V.W. (2007). "SPSS for research". Global Media Information. Yogyakarta.
- [6] Singarimbun, M & Efendi, S. (2012). "Survey Research Methods (revised edition)". LP3ES. Jakarta
- [7] Tjiptono F. & Chandra G. (2011). "Service, Quality, & Satisfaction third edition". Yogyakarta : ANDI Yogyakarta
- [8] Mrs.Sunita Thapa Bhattarai, "Passenger Satisfaction towards Services of Public Transportation: Butwal – Bhairahawa" SSRG International Journal of Economics and Management Studies 6.11 (2019): 29-33.
- [9] Zeithaml, V.A. (1990). "Consumer Perception of Price, Quality, and Value: A Means-end Model and Synthesis of Evidence". Journal of Marketing. Vol. 52 Edition 3.
- [10] Hari Boedi, Willy Artha Wirawan, Fadli Rozaq, Dadang Sanjaya Atmaja. (, 2020). "The Effect Of Quenching Media On Surface Treatment Process On The Rel UIC R42 (Union Internationale Des Chemins De Fer-42) Endurance". International Journal of Advanced Science and Technology, 29(6s), 1329 – 1336
- [11] W.A. Wirawan et al., "The Effect Of Material Exposure Variations On Energy Absorption Capability And pattern Of Deformation Material Of Crash Box Of Three Segments". Journal of Physics: Conference Series 1273 (1), 012081, 2019. doi:10.1088/1742-6596/1273/1/012081.