

Analysis of Customer Satisfaction towards Waste Transportation Using the Important Performance Analysis Method

Muhdar^{1*}, Harvian Bagus Dewantara², Eko Afrianto³

^{1,2} Department of Management, Institut Teknologi dan Sains Mandala, Indonesia

³ Department of Information System, Institut Teknologi dan Sains Mandala, Indonesia

Abstract

This research aims to identify quality aspects that cause customer satisfaction in waste transportation at the Banyuwangi Regency Environmental Service. The data used in this research is primary data. The data processing method in this research uses validity tests and reliability tests which are data instrument test analysis methods, as well as testing physical evidence (tangible value) which is an attribute of the five dimensions of service quality, dependability (reliability), responsiveness, sense of security and empathy. The research results show that the gap value in the reliability aspect is very low, this shows that the service quality of the Banyuwangi Regency Environmental Service is very satisfying to customers. Meanwhile, the responsiveness dimension has the biggest gap, this shows that customers are dissatisfied with the responsiveness of the Banyuwangi Regency Environmental Service in overcoming existing problems. This will of course be a reference for improving the quality of services of the Banyuwangi Regency Environmental Service.

Article Info

Keywords:

Assurance,
Empathy,
Reliability,
Responsiveness,
Tangibles

JEL Classification:

H11, J24, J54

Corresponding Author:

Muhdar
(muhdar@itsm.ac.id)

Received: 29-05-2024

Revised: 25-06-2024

Accepted: 20-07-2024

Published: 30-07-2024



1. Introduction

The rapid development of urban areas, especially in Banyuwangi City. As a fairly densely populated city and followed by the relocation of some villagers to the city, of course, has a significant impact on the increase in the number of city residents which is also comparable to the waste that will be produced. However, it is not directly accompanied by the provision of comparable facilities and infrastructure by the government, as a result, existing services are not optimal and there is a decline in environmental quality, especially in the problem of city waste transportation. To overcome this problem, the role of the government is needed, supported by the concern of the local city community.

In relation to meeting the needs of the community for increasingly complex services, the government as the person in charge of services in the state organization has formed various departments or agencies both at the center and in the regions that are tasked with serving the community in meeting the need for products and services (Retnandari, 2022). One of them is the formation of the Environmental Service as a regional apparatus of the Banyuwangi Regency Government which is a means of serving the community's needs for cleaning services.

Until now, the services provided by the government, especially the Environmental Service in terms of waste transportation services, have not been optimal (Rızvanoğlu et al., 2020). Waste that is not managed properly is one of the causes of increasing water, soil and air pollution and increases the potential for flooding in urban areas (Singh et al., 2022). Waste problems need to be handled seriously with appropriate and integrated operational and management techniques

based on the conditions and regional policies of Banyuwangi City. Improving services that satisfy the community has become a must for the government to provide and give quality services to the community (Brusa & Bahmani-OSkooee, 2022). This is one of the main functions of government, namely providing services (service delivery) in addition to development and community empowerment (empowerment).

Customer satisfaction is the main indicator of the standard of a facility and as a measure of the quality of service provided (Shokouhyar et al., 2020; Gajewska et al., 2020). Customer satisfaction can be achieved through the best performance results in providing services to customers (Al Omari et al., 2020). Providing the best service occurs when the company is able to maintain/improve the quality of services or services provided to customers (Sampurna & Miranti, 2020). Therefore, the company must be able to continue to read what customers need in order to achieve a high level of customer satisfaction (Khan et al., 2020). Customer satisfaction is one of the keys to creating customer satisfaction (Kurdi et al., 2020). The importance of customer satisfaction can provide several benefits, including a harmonious relationship between the company and its customers, providing a good basis for repeat purchases, encouraging customer loyalty, and the emergence of customer willingness to pay a reasonable price for the services received.

The operational waste transportation service is the transportation of waste from the TPS provided by the Environmental Service, then from the TPS (Waste Disposal Site), the waste is transported to the Final Disposal Site (TPA). In this study, the author focuses on waste transportation services at TPS, namely specifically on waste transportation services from residential areas/residents transported by RT/RW cleaning officers (self-help/voluntary) in the city area of Banyuwangi Regency.

2. Methods

This study uses a combination of qualitative and quantitative research methods. This is in accordance with Brannen's "Triangulation Logic" approach that, "Findings from one type of study can be checked against findings obtained from other types of studies. For example, qualitative research results can be checked in quantitative studies. The general goal is to strengthen the validity of all the findings". In this study, the population to be studied is all RT/RW (self-help) cleaners who dispose of waste or receive waste transportation services from the DLH at the TPS in Giri District, Glagah District, and Rogojampi District, Banyuwangi Regency. The sample to be taken by the researcher is the RT/RW (self-help) cleaners in Giri District, Glagah District, and Rogojampi District, Banyuwangi Regency. as many as 20 people who dispose of waste at the TPS provided by the Environmental Service using the Purposive Sampling method. The criteria taken by the author are garbage officers who load garbage 2 times.

The data collection techniques used in this study are distributing questionnaires, documentation, observation and interviews. The distribution of questionnaires was carried out to cleaning officers (self-help) RT / RW in Giri District, Glagah District, and Rogojampi District, Banyuwangi Regency, which have been used as samples in this study. Documentation studies were carried out by studying secondary data in the form of books, reports and so on. Interviews were conducted with personnel within the organization such as heads of departments, heads of sub-departments and other employees. The data analysis method used in this study includes the instrument testing stage consisting of validity tests and reliability tests, in order to be a measuring tool in the questionnaire. Furthermore, the researcher used the Importance Performance Analysis (IPA) method to determine the performance level variables and customer interest level variables.

a. Validity Test

The Validity Test in this study used item analysis, namely correlating the score of each item, with a total score which is the sum of the scores for each item. The validity test is used to measure the validity or otherwise of a questionnaire obtained r still has to be tested for

significance by comparing it with the r table. The question item is said to be valid if the calculated r value > r table or p value < 0.05.

b. Reliability Test

Reliability Test is to determine the extent to which the measurement results remain consistent, if measurements are taken twice or more against the same symptoms using the same measuring instrument. The reliability measurement technique in this study uses Alpha Cronbach. This technique or formula can be used to determine whether a research instrument is reliable or not. Furthermore, this reliability test calculation technique will be carried out automatically using the SPSS 13.0 application. A construct or variable is said to be reliable if it provides a Cronbach Alpha value > 0.60.

c. Importance Performance Analysis

In analyzing the research data, a qualitative-quantitative descriptive method was used to answer the problem formulation regarding the extent of customer satisfaction with performance. Therefore, the Importance Performance Analysis Method from Martila and James will be used, that "services will be something useful if they are based on customer interests and their performance for the organization". This means that service providers should pay attention to things that are considered important by customers.

3. Results and Discussion

3.1. Results

The object to be studied is the TPS located in the Banyuwangi Regency Capital City area which has been provided by the Banyuwangi Regency Environmental Service. TPS is an abbreviation of Temporary Shelter, this abbreviation is based on the Regulation of the Minister of Home Affairs Number 33 of 2010 concerning Waste Management Guidelines. TPS is a place where waste is stored before being transported to a recycling, processing, and/or integrated waste processing site.

a. Service Quality Analysis

Service Quality Analysis is conducted by looking at the gap between the service expected by customers and the performance of the service provided by the Banyuwangi Regency Environmental Service. The results of Service Quality can be seen in the following table:

Table 1. Service Quality

| Item | Importance | Performance | Gap |
|----------------|------------|-------------|------|
| Tangible | 9.25 | 9.05 | -0.2 |
| Reliability | 8.65 | 8.65 | 0 |
| Responsiveness | 8 | 7 | -1 |
| Assurance | 8.8 | 8.4 | -0.4 |
| Emphaty | 9.05 | 8.25 | -0.8 |

Source: Data Processed (2023)

From the table above, it is known that the performance of the Banyuwangi Regency Environmental Service still has the expectations desired by customers. This can be seen from the overall gap between quality and satisfaction which is negative. With the largest gap in the Responsiveness Dimension, there is a gap value of -1 and the smallest gap is 0 in the Reliability Dimension.

b. Results of Importance Performance Analysis Calculation

To answer the main problem in this study, namely the extent of customer satisfaction with the Waste Transportation service of the Banyuwangi Regency Environmental Service, the following will discuss in general terms the variables with various indicators in the study. Based on the data in table 2, it appears that in general the answers from 20 respondents for the level of

performance/appearance quality in 5 dimensions and 10 service quality indicators can be categorized as very high, namely reaching an average score of 82.7.

Table 2. Performance Level

| Item | Variable | Score | Average | Category |
|----------------|----------|-------|---------|-----------|
| Tangibles | X1 | 93 | 90.5 | Very high |
| | X2 | 88 | | |
| Reliability | X3 | 93 | 86.5 | Very high |
| | X4 | 80 | | |
| Responsiveness | X5 | 70 | 70.0 | High |
| | X6 | 70 | | |
| Assurance | X7 | 68 | 84.0 | Very high |
| | X8 | 100 | | |
| Emphaty | X9 | 85 | 82.5 | Very high |
| | X10 | 80 | | |
| Average Score | | | 82.70 | |

Source: Data Processed (2023)

Table 3. Level of Interest

| Item | Variable | Score | Average | Category |
|----------------|----------|-------|---------|-----------|
| Tangibles | Y1 | 100 | 92.5 | Very high |
| | Y2 | 85 | | |
| Reliability | Y3 | 90 | 86.5 | Very high |
| | Y4 | 83 | | |
| Responsiveness | Y5 | 80 | 80.0 | High |
| | Y6 | 80 | | |
| Assurance | Y7 | 88 | 91.5 | Very high |
| | Y8 | 95 | | |
| Emphaty | Y9 | 88 | 90.5 | Very high |
| | Y10 | 93 | | |
| Average Score | | | 88.2 | |

Source: Data Processed (2023)

From the table data above, it appears that in general the answers of 20 respondents for the level of customer interest in 5 dimensions and 10 indicators of service quality can be categorized as very high, reaching a total score of 88.2.

The stages carried out to determine the suitability between the level of performance and the level of importance can use the following formula:

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

$$Tki\ Total = \frac{827}{882} \times 100\%$$

$$Tki\ Total = 93,76\%$$

Based on the calculation results of the level of conformity, which is 93.76% overall, it can be concluded that the quality of the Banyuwangi Regency Environmental Service's Waste Transportation Service is in the Very Good category. Then in the next stage is to analyze the quadrant, namely calculating the average assessment of the X variable of 4.14 and the Y variable of 4.41.

c. Cartesian diagram

Quadrant I (Top Priority)

Statements in this Quadrant are considered very important by customers but the service is less than satisfactory so that the Environmental Service needs to improve the quality of its service.

- Statement 7: Friendliness and Honesty of the Jember Regency Environmental Service waste service officers.

- Statement 10: Easy to contact and Good communication during the waste transportation process.

With the conclusion, the Jember Regency Environmental Service needs to prioritize improving the performance of its services that are considered important by customers.

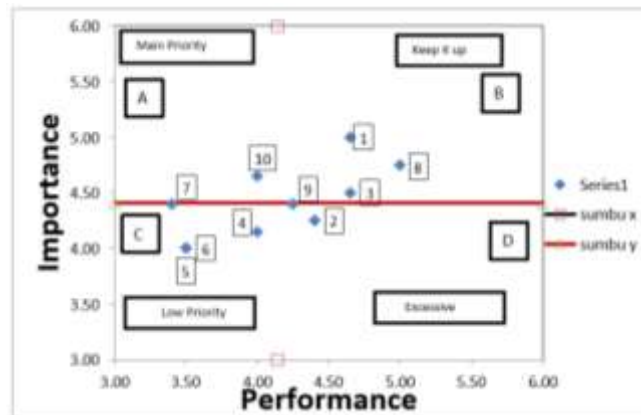


Figure 1. Cartesian Diagram
Source: Data Processed (2023)

Quadrant II (Maintain Achievement)

Statements that are considered very important for customers and also very satisfying service quality, so that the Banyuwangi Regency Environmental Service needs to maintain its service quality.

- Statement 1: Appearance of vehicles used to serve waste transportation.
- Statement 3: Timeliness in waste transportation.
- Statement 8: Ability and responsibility of officers in ensuring the safety of waste transported to the final disposal location.
- Statement 9: Fair attitude in serving from waste transportation officers.

It can be concluded from the statement above, that customers are very satisfied with the service provided by the Banyuwangi Regency Environmental Service. Therefore, the Jember Regency Environmental Service must maintain its service quality.

Quadrant III (Low Priority)

Statements that are considered unimportant by customers and the quality of service is less than satisfactory.

- Statement 4: Speed in serving loading or dumping waste.
- Statement 5: Responsiveness of the Banyuwangi Regency Environmental Service or officers in problems that arise in waste transportation services.
- Statement 6: Responsiveness of the Banyuwangi Regency Environmental Service or officers to complaints submitted by customers.

It can be concluded that customers are dissatisfied with the service contained in this statement, and customers also consider it unimportant, but improvements are needed for the Banyuwangi Regency Environmental Service.

Quadrant IV (Excessive)

Statements that are considered unimportant by customers but the service is very satisfying. Statement 2, condition of the Transferdepo used for loading waste. It can be concluded that customers are satisfied with the performance provided by the Banyuwangi Regency Environmental Service.

4. Conclusion

Based on the results of the discussion, it can be concluded that the quality of waste transportation services of the Banyuwangi Regency Environmental Service is quite satisfactory in several dimensions, but there is still room for improvement in certain dimensions. The reliability dimension achieved the lowest gap score of 0 and is categorized as very satisfactory due to the implementation of timely service indicators and speed of loading waste. Likewise, the tangibles and assurance dimensions each obtained gap scores of -0.2 and -0.4, which are also very satisfactory. The empathy dimension achieved a gap score of -0.8 which is quite good, indicating that fair service and the willingness of officers to respond to customer needs are considered adequate.

However, the responsiveness dimension showed the highest gap score of -1, which is categorized as unsatisfactory. This is due to the lack of readiness of officers to assist and resolve problems that arise during the service process. Several attributes that are considered unsatisfactory by customers include the speed of loading or dumping waste services, the responsiveness of the Environmental Service to customer problems and complaints. Therefore, special improvements are needed in this dimension to improve service quality and customer satisfaction. The suggestion for the Environmental Service is to continue to improve the quality of services, especially in the responsiveness dimension, while for further researchers it is hoped that they can conduct more in-depth observations related to problems and variables that have not been revealed in this study.

References

- Al-Omari, Z., Alomari, K., & Aljawarneh, N. (2020). The role of empowerment in improving internal process, customer satisfaction, learning and growth. *Management Science Letters*, 10(4), 841-848. <https://doi.org/10.5267/j.msl.2019.10.013>
- Brusa, J. O., & Bahmani-OSkooee, M. (2022). the Influence of Location Accessibility on Community Satisfaction With the Quality of Texas District Public Health Services As Intervening Variables. *MEDALION JOURNAL: Medical Research, Nursing, Health and Midwife Participation*, 3(3), 117-123. <https://doi.org/10.59733/medalion.v3i3.49>
- Bungatang, B., & Reynel, R. (2021). The effect of service quality elements on customer satisfaction. *Golden Ratio of Marketing and Applied Psychology of Business*, 1(2), 107-118. <https://doi.org/10.52970/grmapb.v1i2.102>
- Gajewska, T., Zimon, D., Kaczor, G., & Madzík, P. (2020). The impact of the level of customer satisfaction on the quality of e-commerce services. *International Journal of Productivity and Performance Management*, 69(4), 666-684. <https://doi.org/10.1108/IJPPM-01-2019-0018>
- Khan, R. U., Salamzadeh, Y., Iqbal, Q., & Yang, S. (2022). The impact of customer relationship management and company reputation on customer loyalty: The mediating role of customer satisfaction. *Journal of Relationship Marketing*, 21(1), 1-26. <https://doi.org/10.1080/15332667.2020.1840904>
- Kurdi, B., Alshurideh, M., & Alnaser, A. (2020). The impact of employee satisfaction on customer satisfaction: Theoretical and empirical underpinning. *Management Science Letters*, 10(15), 3561-3570. <https://doi.org/10.1080/15332667.2020.1840904>
- Retnandari, N. D. (2022). Implementation of strategic planning in regional/municipal governments, obstacles and challenges. *Policy & Governance Review*, 6(2), 155-175. <https://doi.org/10.30589/pgr.v6i2.556>
- Rızvanoğlu, O., Kaya, S., Ulukavak, M., & Yeşilnacar, M. İ. (2020). Optimization of municipal solid waste collection and transportation routes, through linear programming and geographic information system: a case study from Şanlıurfa, Turkey. *Environmental Monitoring and Assessment*, 192, 1-12. <https://doi.org/10.1007/s10661-019-7975-1>

- Sampurna, P. A., & Miranti, T. (2022). The effect of service quality, banking digitalization, and customer relationship management (CRM) on customer loyalty. *Jurnal Maksipreneur: Manajemen, Koperasi, Dan Entrepreneurship*, 12(1), 303-315. <https://doi.org/10.30588/jmp.v12i1.1138>
- Shokouhyar, S., Shokoohyar, S., & Safari, S. (2020). Research on the influence of after-sales service quality factors on customer satisfaction. *Journal of Retailing and Consumer Services*, 56, 102139. <https://doi.org/10.1016/j.jretconser.2020.102139>
- Singh, N., Poonia, T., Siwal, S. S., Srivastav, A. L., Sharma, H. K., & Mittal, S. K. (2022). Challenges of water contamination in urban areas. In *Current directions in water scarcity research* (Vol. 6, pp. 173-202). Elsevier. <https://doi.org/10.1016/B978-0-323-91838-1.00008-7>