

Public Satisfaction Analysis of Surabaya City Using Importance Performance Analysis and Customer Satisfaction Index

Fahmi Maulutfi Dwi Putra¹, Brodjol Sutijo Suprih Ulama¹

[1] Department of Business Statistics, Institut Teknologi Sepuluh Nopember, Surabaya, 60111, Indonesia,

Email of corresponding: fahmiputra421@gmail.com

Present Address:

Department of Business Statistic, Jl. Raya ITS, Surabaya 60111, Indonesia

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Abstract— Service for the public is one of the tasks that the government must carry out. The government as a public servant must be able to provide services from all community needs in all matters such as licensing, population (Identity Card, Family Card, Birth Certificate) and so on. Surabaya City is one of the cities in East Java. Surabaya City has the task of handling regional autonomy affairs. The tasks carried out must be structurally and morally accountable to the community. In the service activities provided, there are still many complaints from the people of Surabaya City. Therefore, research was conducted on Surabaya City community satisfaction by directly surveying public services in order to increase Surabaya City community satisfaction. This research will be analysed using the customer satisfaction index and importance performance analysis methods so that it can be concluded that the people of Surabaya City are not satisfied with the public services provided.

Keywords— Customer Satisfaction Index, Importance Performance Analysis, Public Satisfaction.

1. INTRODUCTION

Population growth in a country requires the government to be able to provide various facilities and fulfil the needs of its people, especially countries that adhere to the welfare state like Indonesia. The state is required to play a distant role and interfere with aspects of fulfilling the needs of the community in order to realise people's welfare [1]. Service to the community is one of the tasks that the government must carry out. The government as a public servant, must be able to provide services from all community needs in all matters such as licensing, population (Identity Card, Family Card, Birth Certificate) and so on. The government in carrying out its duties is carried out through government institutions consisting of the central government, local governments (Provinces and Regency / City).

Surabaya City is one of the cities in East Java. Surabaya City as one of the regional devices, has the task of handling regional autonomy affairs. The tasks carried out must be structurally and morally accountable to the community. In the service activities provided, there are still many complaints from the people of Surabaya City. Therefore, research was conducted on the satisfaction of the Surabaya City community by directly surveying services and facilities in order to increase the satisfaction of the Surabaya City community. This research will be analysed using the customer satisfaction index and importance-performance analysis methods.

Satisfaction is a person's feeling of pleasure or disappointment which is the result of a comparison of the perception of product performance and expectations [3-8]. GAP analysis or gap analysis is an analysis used to evaluate the difference between the assessment made by the community against statements for expectations and satisfaction. It is hoped that this research can provide input to the City of Surabaya regarding the

development of public services provided by the community so that it can improve public services for the better.

2. METHOD

2.1. Data Source

The data to be used in this research is primary data. Data is obtained from direct surveys. This was carried out on 17 June 2022 to 28 June 2022 in Surabaya City as much as 200 data.

2.2. Sampling Method

Sampling design consists of population, sample, sampling unit, and sampling technique. Population is all objects that may be selected or all characteristics studied [2]. The population used is the people of Surabaya city. The sample is part of the population elements resulting from the sampling strategy [2].

The sampling used is Surabaya by region which consists of 5 regions, namely Surabaya centre, west, east, north, and south. Surabaya consists of 5 regions including central, west, east, north, and south Surabaya. Where the population is determined, namely the people of Surabaya city as many as 2,874,314 people with a total sample of 200 people. The sample is shown in Table 1 as follows.

Table 1 Selected Sample

Area	Population	Selected People
Central Surabaya	322.481	22
West Surabaya	487.260	34
North Surabaya	577.593	40
East Surabaya	783.455	55
South Surabaya	703.525	49

2.3. Research Variables

The variables used in the Surabaya city community satisfaction analysis research consist of demographic and satisfaction variables.

1. Demographic Variables

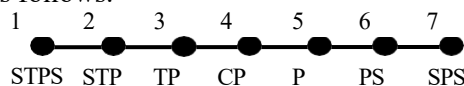
Demographic variables are variables containing data about the people of Surabaya city are as follows.

Table 2 Demographic Variables

Variable	Description	Scale
Age	<26 Years Old 26 – 33 Years Old 34 – 44 Years Old 45 – 54 Years Old >54 Years Old	Interval
Gender	Male Female	Nominal
Job	Private Employee Self-employed Self-employed Student Teacher Housewife Civil Servant Others	Nominal
Spend	< Rp3.000.000 Rp3.000.000 – Rp4.500.000 Rp4.500.001 – Rp6.000.000 Rp6.000.001 – Rp9.000.000 > Rp9.000.000	Interval

2. Satisfaction Variable

The satisfaction variable contains variables used to measure the satisfaction of the Surabaya City community using a Likert scale as follows.



Description:

- 1 = STPS (Very Dissatisfied)
- 2 = STP (Very Dissatisfied)
- 3 = TP (Dissatisfied)
- 4 = CP (Quite Satisfied)

- 5 = P (Satisfied)
- 6 = SP (Very Satisfied)
- 7 = SPS (Very Satisfied)

Table 3 Satisfaction Variable

Dimensions	Attributes	Scale
<i>Tangible (X₁)</i>	Cleanliness and beauty of the city	<i>Likert</i>
	Availability of public facilities (recreational areas/parks) for citizens residents	<i>Likert</i>
	Street vendor arrangement	<i>Likert</i>
	Public transport	<i>Likert</i>
	Road quality/condition	<i>Likert</i>
<i>Reliability (X₂)</i>	Environmental sanitation (rivers/drains/waterways)	<i>Likert</i>
	Quality and affordable primary and secondary education	<i>Likert</i>
	Smooth traffic in the city	<i>Likert</i>
<i>Responsiveness (X₃)</i>	Disaster control/handling efforts	<i>Likert</i>
	Population document processing (birth certificate/Identity Card)	<i>Likert</i>
<i>Assurance (X₄)</i>	Cheap and easy to get health services	<i>Likert</i>
	Handling sponges and other people with social problems	<i>Likert</i>

2.4. Research Steps

The research steps used are as follows.

1. Collecting data by conducting surveys directly to the people of Surabaya City.
2. Describing the characteristics of the people of Surabaya City from the survey data.
3. Conduct Importance Performance Analysis (IPA) analysis on Surabaya City community satisfaction data. (IPA) analysis on Surabaya City community satisfaction data.
4. Conducting Customer Satisfaction Index (CSI) analysis on Surabaya City community satisfaction data.
5. Interpreting research results, drawing conclusions and suggestions.

3. RESULT AND DISCUSSION

This chapter discusses the statistical analysis process with primary data from the Surabaya City community satisfaction survey results. The research object used is the people of Surabaya City as many as 200 people. The analysis was carried out using descriptive statistical methods to describe the demographic variables of respondents' satisfaction. After that, Importance Performance Analysis is carried out to identify what important performance factors must be shown in fulfilling respondent satisfaction, Customer Satisfaction Index to determine the level of satisfaction of the Surabaya City community with an approach that considers the level of expectations and reality. The following are the results of the analysis using several methods.

3.1. Validity and Reliability Test

This stage is carried out to find out how much the results of the suitability / validity of the Surabaya city community satisfaction survey data. The results of the validity test calculation are presented in Table 4 as follows.

Table 4 Validity Test

Dimensions	Attributes	rCount		Decision
		Expected	Reality	
<i>Tangible</i>	X ₁	0.643	0.362	Valid
	X ₂	0.630	0.362	Valid
	X ₃	0.648	0.394	Valid

	X ₄	0.651	0.379	Valid
	X ₅	0.623	0.271	Valid
Realibility	X ₆	0.406	0.507	Valid
	X ₇	0.576	0.273	Valid
	X ₈	0.669	0.463	Valid
Responsiv-ness	X ₉	0.650	0.369	Valid
	X ₁₀	0.557	0.390	Valid
Assurance	X ₁₁	0.564	0.352	Valid
	X ₁₂	0.670	0.463	Valid

Table 4 shows that the results of the validity test of the Surabaya city community satisfaction survey data, all correlation coefficient values (r count) are greater than the table correlation coefficient of 0.350, which means that all satisfaction attributes are valid data at both the level of expectations and the level of reality. Furthermore, the reliability test is carried out with the attached software output results as follows.

Table 5 Reliable Test

Attribute Type	Alpha Cronbach	Description
Expectations	0.878	Very Reliable
Reality	0.631	Reliable

Table 5 shows the results of testing the reliability of the level of expectations and reality. The results obtained at the expectation level are 0.878, which is in the range between 0.81 - 1.00, which means very reliable. Meanwhile, at the level of reality, the Cronbach Alpha value of 0.631 is obtained, which is within the range of 0.61 - 0.80, which means it is reliable.

3.2. Data Characteristics

Data characteristics are used to determine the general description of the objects as satisfaction analysis variables. Demographic variables of descriptively processed respondents include age, gender, occupation, and expenditure. The following are the data characteristics of the demographic variables of public satisfaction in Surabaya City.

1. Age Characteristics of Surabaya City Community

The age characteristics of Surabaya City community are presented in the Pie Chart of age in Figure 1 as follows.

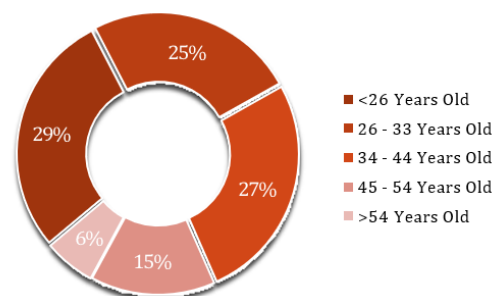


Figure 1 Age Pie Chart

Figure 1. shows that the percentage of people in Surabaya City aged >54 Years Old is smaller by 6% than those aged <26 Years Old by 29%, 26-33 Years Old by 25%, 34-44 Years Old by 27%, and 45-54 Years Old by 15%.

2. Gender Characteristics of Surabaya City Community

Gender characteristics of Surabaya City residents presented in Pie Chart in Figure 2 as follows.

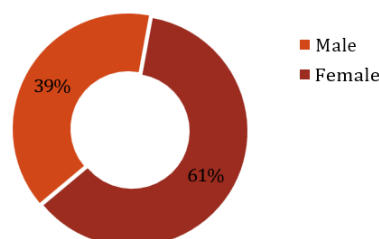


Figure 2 Gender Pie Chart

Figure 2. shows that the percentage of gender of Surabaya City residents with female gender is more, 61% and male gender is 39%.

3. Occupational Characteristics of the People of Surabaya City

Job characteristics of Surabaya City residents are presented in the Pie Chart in Figure 3 as follows.

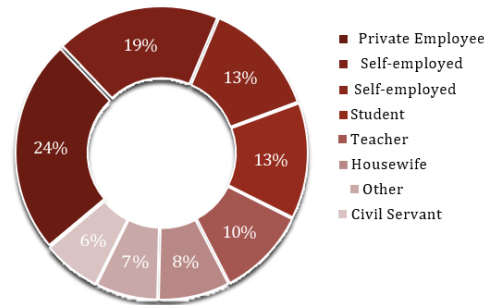


Figure 3 Occupational Chart

Figure 3. shows that the percentage of people working in Surabaya City in civil servant jobs is smaller at 6% than other jobs. While the highest percentage is in the private employee occupation of 24%.

4. Characteristics of Expenditure every Month

The characteristics of monthly expenditure of Surabaya City residents are presented in the Pie Chart in Figure 4. as follows.

Figure 4. shows that the highest monthly expenditure of Surabaya City residents is < Rp3,000,000 by 38% and the lowest is > Rp9,000,000 by 1%.

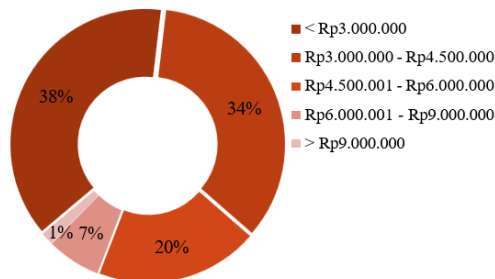


Figure 4 Pie Chart Expenditure every month

Figure 4. shows that the highest monthly expenditure of Surabaya City residents is < Rp3,000,000 by 38% and the lowest is > Rp9,000,000 by 1%.

3.3. Importance Performance Analysis

Importance Performance Analysis (IPA) is an analytical technique used to identify important performance factors that must be demonstrated by an organisation in meeting the satisfaction of system users. The following is the calculation of IPA on the data from the Surabaya City community satisfaction survey results.

Table 6 Importance Performance Analysis Calculation

Dimensions	Attributes	Average Expectation	Average Reality
<i>Tangible (X₁)</i>	Cleanliness and beauty of the city	6.22	4.56
	Availability of public facilities (recreation areas/parks) for residents	6.14	4.47
	Street vendor arrangement	5.88	3.53
	Public transport	6.05	4.24
	Road quality/condition	6.16	3.89
<i>Reliability (X₂)</i>	Environmental sanitation (river/drains/water channels)	5.87	3.68
	Quality and affordable primary and secondary education	6.05	3.98
	Smooth traffic in the city	5.88	3.58
<i>Responsiveness (X₃)</i>	Disaster control/handling efforts	6.16	4.41

	Population document processing (birth certificate/Identity)	6.03	4.13
Assurance (X ₄)	Cheap and easy health services	6.11	3.73
	Handling of gepeng and other social problem persons	6.1	4.29

Table 6 can be made visually to make it easier to get information by depicting the average expectations and reality in the form of a graph presented in one figure in Figure 5.

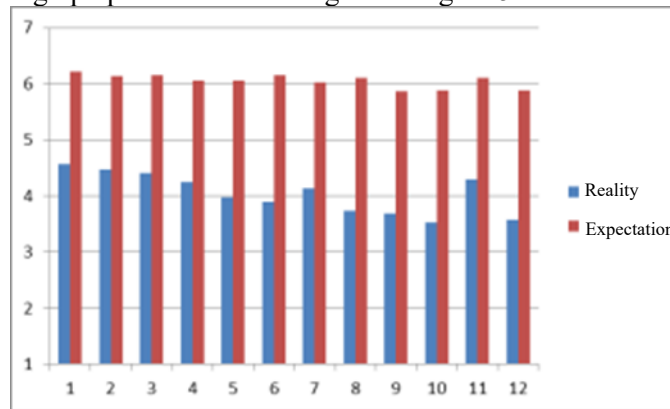


Figure 5 IPA Calculation Bar Chart

Figure 5. shows that the average level of expectation is higher than the average level of reality, which means that the people of Surabaya City still have expectations for Surabaya city services and facilities and are less satisfied with the services and facilities of Surabaya City.

After knowing the description of the average level of expectation and reality in each attribute, continue to make a comparison of the average level of expectation and reality in each dimension shown in Table 7 as follows.

Table 7 Calculation of Each Dimension

Num	Dimension	Score Average		Percentage of Conformity
		Expectation	Reality	
1	Tangible	6.09	4.138	67.95%
2	Reliability	5.93	3.75	63.15%
3	Responsiveness	6.095	4.27	70.06%
4	Assurance	6.105	4.01	65.68%

Table 7 shows that the dimension that has the highest percentage of conformity between expectations and reality is the Responsiveness dimension, which is 70.06%.

1. Quadrant I (Top Priority (High Importance and Low Performance))

The factors located in this quadrant are considered a top priority that must be improved so that management is obliged to allocate adequate resources to improve the performance of these various factors. This quadrant is on the upper left side of the Cartesian diagram. The factors included in this quadrant are as follows.

Table 8 Quadrant I

Num	Dimension	Factor
1	Tangible	Road quality/condition
2	Assurance	Cheap and easy access to health services

Table 8 shows that the factors included in quadrant I must be prioritised for improvement and handling because the existence of these factors is considered very important by the community but the level of performance or implementation is not satisfactory and not in accordance with community expectations. These factors include the quality/condition of roads, cheap and easy to get health services, are expected to be better by the people of Surabaya City because the reality is still low while the expectations are high. This quadrant should be a top priority.

2. Quadrant II (Maintain Achievement (High Importance and High Performance))

The factors located in this quadrant must be maintained as a form of achievement because they have high levels of expectation and high reality. This quadrant is on the upper right side of the Cartesian diagram. The factors included in this quadrant are as follows.

Table 9 Quadrant 2

Num	Dimension	Factor
1	<i>Tangible</i>	Cleanliness and beauty of the city
		Availability of public facilities
2	<i>Responsiveness</i>	Disaster control efforts
3	<i>Assurance</i>	Handling of gepeng and other social problems

Table 9 shows that the factors included in quadrant II must be maintained because they are the flagship of the services provided and have been satisfied by the people of Surabaya City. These factors include the cleanliness and beauty of the city, the availability of public facilities, disaster control efforts, and handling of gepeng and other social problems.

3. Quadrant III (Low Priority (Low Importance and Low Performance))

The factors located in this quadrant have low satisfaction levels and low expectations, so management does not need to prioritise these factors. This quadrant is on the lower left side of the Cartesian diagram. The factors included in this quadrant are as follows.

Table 10 Quadrant 3

Num	Dimension	Factor
1	<i>Tangible</i>	Street vendor management
2	<i>Reliability</i>	Smooth traffic flow in the city
		Quality and affordable primary and secondary education
		Environmental sanitation (rivers/drains/waterways)

Table 10 shows that the factors that are included in quadrant III. are not really expected more by the people of Surabaya City but are also considered not effective enough and there is still excessive performance. These factors include environmental sanitation (river/drains), street vendor arrangement, quality and affordable SD-SMA education, and smooth traffic in the city.

4. Quadrant IV (Excessive (Low Importance and High Performance))

The factors located in this quadrant are considered not very important to the community so that management needs to allocate these resources to other factors that have a higher priority, for example in quadrant two. This quadrant is on the lower right side of the Cartesian diagram. The factors included in this quadrant are as follows.

Table 11 Quadrant 4

Num	Dimension	Factor
1	<i>Tangible</i>	Public transport
2	<i>Responsiveness</i>	Civil registration documents

Table 11 shows that the factors included in quadrant IV are less important in their influence. There are 2 factors that are considered excessive by the Surabaya city community. These factors are population document management, and public transport.

3.4. Customer Satisfaction Index

The Customer Satisfaction Index (CSI) is used to determine the overall level of community satisfaction with an approach that considers the level of expectations and reality of the measured quality attributes. The following is the calculation of the CSI of Surabaya city community satisfaction in accordance with the existing steps.

Table 12 Customer Satisfaction Index

Attributes	Reality (X)	Expectation (Y)	WF	WS
1	4.56	6.22	0.086	0.390
2	4.41	6.16	0.085	0.374
3	4.24	6.05	0.083	0.353
4	4.47	6.14	0.085	0.378

5	3.68	5.87	0.081	0.297
6	3.89	6.16	0.085	0.330
7	3.98	6.05	0.083	0.331
8	3.73	6.11	0.084	0.314
9	3.53	5.88	0.081	0.286
10	4.29	6.1	0.084	0.360
11	4.13	6.03	0.083	0.343
12	3.58	5.88	0.081	0.290
Total	48.49	72.65	1.000	4.046

Based on Table 12 regarding the Customer Satisfaction Index criteria, the level of satisfaction of the Surabaya city community with public services is Dissatisfied.

4. CONCLUSION

The majority of Surabaya City residents are women, 61% of whom have a higher age than 26 years old. The highest occupation is Private Employees by 24%, with the highest expenditure of less than IDR 3,000,000 by 38%. The level of satisfaction of the Surabaya City community with public services is 41.991, which means that the community is not satisfied. Factors that need to be improved to increase public satisfaction with public services include cheap and easy-to-get health services and the quality/condition of roads.

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