Customer Satisfaction Analysis Based on Service Quality Method and Six Sigma-DMAIC
(Case Study at Super Dazzle Yogyakarta)

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Abstract

The business world continues to grow and the retail companies are required to survive and fulfill the customer desires. One of the important factors in business is the service quality. To survive in the competition, the company must improve the quality of customer service. The Super Dazzle store in Kaliurang Yogyakarta branch is a retail business that sells various kinds of gadget accessories. Based on observations and interviews data from some customers in July 2021-January 2022, several complaints were found stating that the quality of service received was not good. Some of the complaints obtained are the number of cashiers was inadequate, employees paid less attention to product quality, some product arrangements were messy, the existing product stock was incomplete, service to customers was bad, and several other services were unsatisfactory. This study aims to determine the level of customer satisfaction with the quality of service provided. The steps are to determine the service quality attributes, to measure the level of satisfaction using the servqual method, then to recommend improvements using the six sigma - DMAIC method. The results showed that most of the customers were not satisfied, this was evidenced by the servqual results with a negative gap value. So, it is necessary to improve the attributes using six sigma - DMAIC. From the results of six sigma - DMAIC processing, the priority of store service improvements is obtained. The priority attributes are uncomfortable parking area (T5), employees are less willing to help customers (RE4), the shop environment is not clean (T2), slow cashier service speed (R5), poor arrangement of goods (T1), employees are lacking in paying attention to consumers (E4), lack of product completeness (T7), unskilled employees (RE5), products have not been fully maintained such as cleanliness and seal (R3). Then the suggestions for improvement can be given based on these attributes. The priorities of improvements recommendations are providing the regular monitoring, enlarge the parking facility, making posters of customer satisfaction, adding customer facilities, maintain the cleanliness of the store and products, selecting quality human resources for employee, providing the employee training, increasing the number of cashiers and adding the variety of products and availability.

Keywords: Service, Perception, Customer Satisfaction, Service Quality, Six Sigma-DMAIC

1. Introduction

Changes in the business world occur very quickly and dynamically, so companies are required to be able to make changes in order to continue to grow and survive based on the influence of loyal customers (Anggraini & Deni, 2019). Companies are not only required to fulfill customer desires, but also can provide added value, one of the main factors is service quality. Good service can provide added value and benefits for customers (Hartono, 2018). If the customer is dissatisfied, it means that the quality of service is ineffective and inefficient (Wisnubroto & Anggoro, 2012). Most service quality is inversely related to consumer perceived expectations and service performance. Therefore, evaluating or improving the quality of service is the most important thing to be applied in outline if the service provider wants to remain superior, different from others, and exist in the eyes of the users. Among the many service businesses, researchers focus on the retail business, which is a field that sells products in the form of services. One of the retail stores that will be the research material is a cellphone accessory store or commonly called Super Dazzle. This store

has four branches located in the province of Yogyakarta, this study only focuses on Super Dazzle branch Kaliurang which is located on Kaliurang Street Km. 5.6 No. 25 Sleman, Yogyakarta, Indonesia. Famous for cell phone accessories with a wide variety, this shop also completes various products ranging from household appliances, electronic and non-electronic devices, kitchen utensils, school supplies, college or work supplies, contemporary accessories, laptop accessories and other unique items. In the google reviews, Super Dazzle store currently still has a rating of 4.6. It means that the costumers are not much disappointed with the services that have been provided. However, it does not mean that customers are considered satisfied (Aryadi, 2012). Based on the results of website observations through the online opinions of customers who have made a purchase activity at least 1 time in the last 7 months at the Super Dazzle store, there are some oblique comments that the services provided so far have not been in accordance with customer satisfaction. Customer complaints can be seen in Table 1 as follows:

Table 1. Customer Complaints from Google Reviews (July 2021 – January 2022)

No	Complaints Data from Online Opinion through Website
1	The stock of products offered (provided) is incomplete
2	Bad customer service (unfriendly employees, less pleasant)
3	Room temperature is a bit hot (AC facilities are not working properly)
4	Expensive price
5	The prices listed on the display with the cashier are sometimes different (information about the product does not match, the cashier is less agile / price updates)
6	The stock of goods does not match what is posted on social media (the product is incomplete; the information does not match)
7	The arrangement of goods is considered untidy (there are items that are not placed in the right place)
8	Inadequate and untidy parking (when crowded)
9	Employees are less willing to help customers
10	Employees are not clear in answering customer complaints
11	The location of the store is not spacious, it can be seen from the arrangement of the goods
12	Store opening hours sometimes do not match
13	Waiting in long queue (limited cashiers)
14	Slow cashier service
15	Employees are less responsive (looking for customer type/desires)
16	The quality of the goods is considered unsatisfactory (easily damaged)
17	Employees do not pay more attention to customers (employees are busy with personal matters, chatting, checking cellphones)
18	Customers are lacking in implementing health protocols (employees are less attentive in dealing with this)
19	Employees are not responsive

Source: Data on the Internet (google review) Super Dazzle Store 2021-2022

Based on table 1, it can be proven that the existing services are not fully satisfactory. This research is also strengthened by making direct observations through interviews with several consumers regarding the services that have been provided. From the observations and interviews carried out in February 2022, there are consumers complaints as seen in Table 2 as follows:

Table 2. Customer Complaints from Interviews (February 2022)

No	Complaints Data from Customer Interviews
1	Insufficient number of cashiers (there still reads "cashier closed" at certain hours)
2	Employees pay less attention to the quality of existing products (cleanliness, seals, laying)
3	The arrangement of some items is still messy (not neat)
4	The shop environment is not clean (dirty)
5	No greeting from employees when entering (lack of special attention to customers)
6	Inadequate room temperature (AC is not working optimally)
7	The products offered are incomplete (added other products)
8	Prioritizing more attention when the customer is busy (the service applied is different)
9	Inadequate and inconvenient parking (cars and motorbikes)
10	Inadequate seating
11	The shop lacks modern equipment (non-automatic hand washing stations, etc.)
12	Some products are easily damaged (materials from poor quality products, KW brand)
13	Misinformation (the warranty on the product is not all appropriate, not all products are provided with a tester, but the information is listed as a tester)
14	Employee appearance is less compact (not uniform for headscarves and pants)
15	Employees are not good at answering customer questions (information conveyed is not clear)
16	The shop is cramped but there are a lot of products so it's hard to move around (when it's crowded)
17	Employees are not functioning optimally; the buyer's atmosphere is disturbed
18	Location is not strategic
19	The speech intonation of employees (cashiers) is not polite when reprimanding customers
20	Employees seem lazy to serve even though the store is not crowded
21	Parking attendants (employees) do not prioritize which one came first (less responsive)
22	Employees are considered less experienced in installing cellphone accessories
23	Employees are not friendly

Source: Interview Observation Data for 2022

Based on table 2, it can be proven that the existing services are not fully satisfactory. Until now the service is still the main obstacle. If the company does not improve performance in terms of service, then it is possible that consumers will choose other products from other companies and the longer they will start leaving the company due to poor service quality. (Kristina et al., 2021).Based on the problems in table 1.1 and table 1.2, the researcher aims to measure the level of customer satisfaction regarding the quality of services provided, determine the service attributes are the priority (early) for improvement and recommend the proposed improvements that can be made to minimize the level of dissatisfaction.

This research is based on the service quality approach through five dimensions. The servqual concept can measure customer perceptions and expectations of the services provided (Wisnubroto & Anggoro, 2012). Through the gap in this study, improvements or quality improvements were made with the six sigma - DMAIC analysis method approach. This research provides suggestions for better improvements to the store in order to increase the services quality and customer satisfaction.

2. Literature Review
2.1 Service Quality (Servqual)
Servqual is an indicator that can provide information about consumer perceptions regarding service quality, performance, suggestions or input in relation to customer expectations regarding satisfaction (Widjoyo et al., 2013). The difference is given because there are two main factors, namely perceived service or the real state of customers regarding perceptions and expected service or customer expectations of good service (Parasuraman et al., 1985). According to Parasuraman et al., (1988), service quality is the reflection that customers give on what they receive at any given time. Service quality can be reflected in the dimensions of service. Dimensions of service quality determinants include: reliability, responsiveness, assurance, empathy (guarantee) and tangible (direct

evidence or physical evidence). The five dimensions are elaborated into each detailed attribute for the expectation variable and the perception variable, which are arranged in statements based on the Likert scale. Before calculating the servqual score, the first step is calculate the average score of each attribute from expectations and perceptions which is formulated as follows(Subandi & Hidayat, 2021):

$$\overline{XE_i} = \frac{\sum E_i}{n} \tag{1}$$

$$\overline{XP_i} = \frac{\sum P_i}{n} \tag{2}$$

Information:

$\overline{XE_i}$ = the average value of the expectation sample of each quality attribute i

$\overline{XP_i}$ = the average value of the perception sample for each quality attribute i

$\sum E_i$ = total expectation value of each attribute of all respondents

$\sum P_i$ = total perception value of each attribute of all respondents

n = number of respondents.

The servqual value is the difference between the perception value and the expected value, which is formulated as follows:

$$SS_i = \overline{XP_i} - \overline{XE_i} \tag{3}$$

Information:

SS_i = servqual score

Perception of service quality is comparing consumer expectations for what it can be in the form of service and experience. While expectations are standards used by customers in assessing good or bad quality when he buys or tries a product which is then used as a reference in assessing performance (Yanottama et al., 2020). Criteria that become problems will be prioritized in terms of service improvement. Regarding the comparison between expectations and performance, a gap will appear. There are 5 gaps related to service quality problems, the following Figure 1 is an example of an image of gap 1 to gap 5.
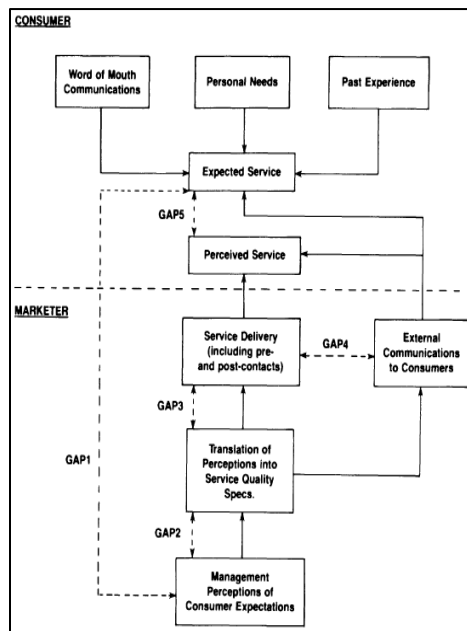

Figure 1. Servqual Model
Source: Parasuraman et al., (1985)

Based on Figure 1, it can be concluded in gap 5 that: If perception < expectations, the service can be said to be of poor quality and unsatisfactory. If the gap or gap is found to be positive (perception > expectation) then the service received is said to be "surprise" and satisfactory. If the gap is zero (perception = expectation), then the service can be said to be of high quality and satisfactory.

2.2 Six Sigma Method

The sigma standard is known as the process defect rate with a value of 3.4 defects in every million units/process, meaning that in one million units/process only 3.4 units/process are allowed to fail/defect. By implementing six sigma improvement, the team improvement process focuses on eliminating chronic problems and reducing variations in the process so that it is effective (Elizabeth, 2015). Based on the concept of six sigma applies deviation tolerance (mean-target) = (μ - T) = $\pm1.5\sigma$ or = T $\pm1.5\sigma$ (Utami et al., 2015). There are five stages in Six Sigma, each stage is described as follows:

1. **Definition stage**. The servqual attributes and dimensions are the outputs of the define stage which are then used to determine service quality. At this stage, a statement or identification of problems in an ongoing process and the objectives of the Six Sigma project is carried out (Yolanda et al., 2017). At this stage in the identification of problems, customer specifications, setting goals, and what to improve (Bahauddin & Arya, 2020).

2. **Measurement stage**. At this stage collect data about the level of defects that occur. Three things include: finding, identifying or selecting the characteristics of a problem commonly referred to as critical to quality (CTQ). This CTQ has a direct interaction with customer needs in measuring sigma value. This study has a value of 5 in the satisfaction target (Firdian et al., 2012). The measurement phase includes according to Yolanda et al., (2017) as follows:
   a. Measurement of importance on satisfaction level based on dimensions and attributes: (average level of perception / satisfaction target) x 100% (4)
   b. DPMO measurement. DPMO = [1–(average level of perception/target satisfaction)]x1,000,000 (5)
   c. Sigma value measurement. Sigma value = normsinv [1-(DPMO/1,000,000)] + 1.5 (6)

3. **Analysis stage**. At this stage trying to find out about the deviations that occur and the reasons for the occurrence of these deviations. The goal is to find variables that cause dissatisfaction which are then used as material for improvement (Firdian et al., 2012). The tools used in this study are Pareto diagrams and fishbone diagrams.

4. **Improve stage**. The goal of this stage is to determine the design of solutions to make improvements, and improve quality based on the processes that need improvement. This design is like a quality improvement proposal based on each potential CTQ so that it is expected to improve quality performance and minimize the resulting failure by increasing the DPMO value and sigma level value (Yolanda et al., 2017).

5. **Control stage**. This stage executed when proposals and designs have been made and implemented, the function is to be maintained to prevent it from returning to the initial state before repair (Firdian et al., 2012).

3. Research Method

The object of research is the customer. Problems in this study are also based on complaints from customers. The customer age is set at least 18 years old; the selected customer has made a purchase at least 1 time within 8 months (July 2021 – February 2022). Respondents were selected randomly, regardless of nationality, gender, or religion. The research was conducted at the Super Dazzle store Kaliurang branch using offline and online questionnaires (google form). The schedule for the implementation of this research is from February 14 to March 14, 2022.

In this study, the data collection done by literature study, observation, questionnaire and interviews.

3.1 Data Analysis Model

1. **Questionnaire Processing.** The questionnaire uses 5 Likert scales, namely: strongly agree (SS), agree (S), neutral (N), disagree (TS), and strongly disagree (STS) both positive and negative statements (Sappaile, 2007).

2. **Research variables.** There are five quality dimensions consisting of tangibles, responsiveness, reliability, assurance, and empathy. Obtained 27 variables with the 5th type of gap regarding the difference between existing services and what is expected. The variables include the following:
   Dimension of Tangibles
   a. Arrangement of goods (layout, order of goods) looks neat or orderly (Kristina et al., 2021)
   b. Store environment cleanliness (inside and outside area) (Subandi & Hidayat, 2021)
   c. The store room temperature is comfortable (Kristina et al., 2021)

    d.   Adequate seating facilities (Novadi & Mahbubah, 2021)
    e.   Convenient vehicle parking area (spacious, protected) (Novadi & Mahbubah, 2021)
    f.   Store employees neat appearance (Suharyanta & A'yunin, 2013)
    g.   Availability or completeness of existing products (offered) (Winanda & Sriyanto, 2016)
    h.   The equipment in the shop (not for sale) looks modern (Kaul, 2007)
    i.   Make it easy for customers to move around (in-store area) (Kaul, 2007)

Dimension of Reliability
    a.   The price offered or provided is quite affordable (Jufriyanto, 2020)
    b.   Hours of service on time (open and close shops) (Prameswara et al., 2014)
    c.   Availability of existing products is always maintained (clean, seal, laying) (Kristina et al., 2021)
    d.   Clear product information (price, promotion and warranty) (Jufriyanto, 2020)
    e.   Cashier service speed (Subandi & Hidayat, 2021)

Dimensions of Responsiveness
    a.   The queuing system is good, orderly, and clear (Taner & Antony, 2006)
    b.   The services provided are impartial (Setyaningsih, 2013)
    c.   Employees are quick to respond to customer complaints (Novadi & Mahbubah, 2021)
    d.   Employees are willing to help customers if needed (Sulthon & Samanhudi, 2020)
    e.   Employees have skillful ability (experienced) (Jufriyanto, 2020)

Dimension of Assurance
    a.   Polite employees in providing service (Saputra, 2016)
    b.   Product quality assurance is always considered (purchases from suppliers)(Novadi & Mahbubah, 2021)
    c.   Employees are able to give high trust to customers (Jufriyanto, 2020)
    d.   The rules or restrictions listed are clear and appropriate while in the store (Jufriyanto, 2020)

Dimension of Empathy
    a.   Clarity of employees in conveying information (easy to understand)(Saputra, 2016)
    b.   Employees are willing to accept suggestions and criticism (Novadi & Mahbubah, 2021)
    c.   Good employee intonation in communication (Paramita et al., 2017)
    d.   Employees give individual attention to customers (Prameswara et al., 2014)

3.   **Validity test.** By comparing the calculated R value with R table. In the study, it can be seen that all statements are declared valid, because the calculated R value is greater than the table R value (Nurwulan et al., 2014). All statement indicators in the questionnaire are valid because they meet the criteria for a significance value <0.05 (Jienardy, 2017). The formula of the validity test according to Nugraha et al., (2014):

$$r = \frac{N\left(\sum X_i Y_i\right) - \left(\sum X_i \cdot \sum Y_i\right)}{\sqrt{\left[N \cdot \sum X_i^2 - \left(\sum X_i\right)^2\right] \cdot \left[N \cdot \sum Y_i^2 - \left(\sum Y_i\right)^2\right]}}$$
(7)

Description:
r   = Correlation coefficient
N   = Number of subjects studied
X   = Total X (item score)
Y   = Total Y (total score)
X^2 = Sum of squares X
Y^2 = Sum of squares Y
XY   = Multiplications of X and Y

4.   **Reliability Test.** The test performed using alpha cronbach (α) (Nugraha et al., 2015). Reliability testing usually uses certain limits such as 0.6. Reliability less than 0.6 is not good if Cronbach's alpha value > 0.6 is still reliable(Jienardy, 2017). while 0.7 is acceptable and above 0.8 is good. Reliability testing uses a measuring instrument in the form of Cronbach's alpha technique with the formula according to Nugraha et al., (2014):

$$ri = \frac{k}{k-1}\left[1 - \frac{\sum \alpha b^2}{\alpha t^2}\right]$$
(8)

Where:
ri   =Instrument reliability
k   =Number of items and tests

$\sum \alpha b^2$ =Total variance of test scores

αt^2 = total variance

5. **Data Sufficiency.** The sampling technique used in this study was purposive sampling, which is a non-probability sampling technique that selects people selected by researchers based on the special characteristics of the sample as a source of data on the research object (Wisnubroto & Anggoro, 2012). The questionnaire used for research, the size of the population in the field cannot be known correctly, the researcher uses a data adequacy test. Serves to calculate data to see if the data collected is sufficient to represent the population, can see what the minimum amount of data is needed by using the Cochran formula as follows (Cochran, 1963):

$$n = \frac{Z^2 \times p \times q}{e^2} \tag{9}$$

Where:

n = Sample size
Z = Confidence level
p = Estimation of the proportion of attributes that exist in the population
q = 1-p
e = Level error

In this study, a confidence level of 90% was used so that the value of Z = 1.645 was used, the value of e was determined at 10%. The estimated proportion of attributes in the population is 0.5. If the above calculations are carried out, the minimum sample size is determined as follows:

$$n = \frac{Z^2 \times p \times q}{e^2}$$

$$n = \frac{(1,645)^2 (0,5)(0,5)}{0,1^2}$$

$$n = 67,65 = 68$$

Based on these calculations, the minimum number of samples that must be used in the study is 68 respondents. Sampling was carried out in 2 stages. The first stage is called a pilot study (preliminary questionnaire) as many as 30 questionnaires or 30 respondents with the aim of adjusting the questionnaire statements to customers. Then the test is carried out using SPSS software (Setyaningsih, 2013). The second stage is the main study of 100 respondents or 100 questionnaires, and considered to have exceeded the adequacy of the data of 68 samples.

4. Data Collection

4.1 Overview (Demography of Research Respondents)

The distribution of the questionnaires was carried out offline by coming directly to the location and online using the google form. The response rate obtained from the google form is 38 respondents, namely as a main study and has been included in the respondent's criteria. While offline data collection obtained as many as 92 respondents. 30 respondents as pilot study and 62 respondents as main study. The following is the demographic data of the respondents:

1. Respondent's Gender

From the distributed questionnaires, the obtained data based on gender are: male (34%) and female (66%)

2. Respondent's Age

From the distributed questionnaires, the obtained data based on age are :18-25 years (45%), 26-35 years (32 %), 36-45 (23%)

3. Respondent's Last Education

From the distributed questionnaires, the obtained data based on the last education are: high school (33%), diploma (32%), bachelor degree (34%), others (1%).

4. Respondent's Occupation

From the distributed questionnaires, the obtained data based on the occupation are as follows: student (44%), private employee (13%), government employee (22%), entrepreneur (13%), others (8%).

5. Results and Discussion

The following are the results of the analysis consisting of validity and reliability tests based on a pilot study questionnaire of 30 respondents, data processing based on servqual and from the six sigma DMAIC method using 100 respondents:

5.1 Validity Test of the Pilot Study Respondents

In this study, there were 30 respondents and with N = 30, alpha of 0.05, the R table value = 0.361. The results of validity test from distributing questionnaires are can be seen in Table 3 and Table 4 as follows:
1. **Validity Test for Respondent's Perception (Reality)**

Table 3. Validity Test Results (Perception)

No	Attributes Statements	R Count	R Table	Result
Tangible (Physical Evidence)				
1	Arrangement of goods (layout, order of goods) looks neat or orderly	0.611	0.361	Valid
2	Store environment looks clean (inside and outside area)	0.796	0.361	Valid
3	The store room temperature is comfortable	0.631	0.361	Valid
4	Adequate seating facilities	0.735	0.361	Valid
5	Convenient vehicle parking area (spacious, protected)	0.735	0.361	Valid
6	Neat appearance of employees	0.602	0.361	Valid
7	Availability and completeness of existing products (offered)	0.503	0.361	Valid
8	The equipment in the shop (not for sale) looks modern	0.522	0.361	Valid
9	The area inside the store makes it easy for customers to move around	0.527	0.361	Valid
Reliability				
10	The price offered or provided is quite affordable	0.620	0.361	Valid
11	Hours of service on time (open and close shops)	0.734	0.361	Valid
12	Availability of existing products is always maintained (cleanliness, seals, laying)	0.716	0.361	Valid
13	Clear product information (price, promotion and warranty)	0.609	0.361	Valid
14	Cashier service speed	0.677	0.361	Valid
Responsiveness				
15	The queuing system is good, orderly, and clear	0.572	0.361	Valid
16	The services provided are impartial, or give priority to certain parties	0.615	0.361	Valid
17	Employees are quick to respond to customer complaints	0.685	0.361	Valid
18	Employees are willing to help customers if needed	0.668	0.361	Valid
19	Employees have skilled abilities (experienced)	0.755	0.361	Valid
Assurance (Guarantee)				
20	Polite employees in providing service	0.731	0.361	Valid
21	Product quality assurance is always considered (purchases from suppliers)	0.675	0.361	Valid
22	Employees are able to give high trust to customers	0.699	0.361	Valid
23	The rules or restrictions listed are clear and appropriate while in the store	0.731	0.361	Valid
Empathy				
24	Clarity of employees in conveying information (easy to understand)	0.775	0.361	Valid
25	Employees are willing to accept suggestions and criticism	0.718	0.361	Valid
26	Good employee intonation in communication	0.724	0.361	Valid
27	Employees give individual attention to customers	0.886	0.361	Valid

Source: Processed data (2022)

2. Validity Test for Respondent's Expectation (Hope)

Table 4. Validity Test Results (Expectations)

No	Attributes Statements	R Count	R Table	Result
	Tangible (Physical Evidence)			
1	Arrangement of goods (layout, order of goods) looks neat or orderly	0.723	0.361	Valid
2	Store environment looks clean (inside and outside area)	0.818	0.361	Valid
3	The store room temperature is comfortable	0.752	0.361	Valid
4	Adequate seating facilities	0.861	0.361	Valid
5	Convenient vehicle parking area (spacious, protected)	0.756	0.361	Valid
6	Neat appearance of employees	0.897	0.361	Valid
7	Availability and completeness of existing products (offered)	0.760	0.361	Valid
8	The equipment in the shop (not for sale) looks modern	0.621	0.361	Valid
9	The area inside the store makes it easy for customers to move around	0.853	0.361	Valid
	Reliability			
10	The price offered or provided is quite affordable	0.677	0.361	Valid
11	Hours of service on time (open and close shops)	0.788	0.361	Valid
12	Availability of existing products is always maintained (cleanliness, seals, laying)	0.853	0.361	Valid
13	Clear product information (price, promotion and warranty)	0.661	0.361	Valid
14	Cashier service speed	0.750	0.361	Valid
	Responsiveness			
15	The queuing system is good, orderly, and clear	0.651	0.361	Valid
16	The services provided are impartial, or give priority to certain parties	0.787	0.361	Valid
17	Employees are quick to respond to customer complaints	0.740	0.361	Valid
18	Employees are willing to help customers if needed	0.707	0.361	Valid
19	Employees have skilled abilities (experienced)	0.762	0.361	Valid
	Assurance (Guarantee)			
20	Polite employees in providing service	0.822	0.361	Valid
21	Product quality assurance is always considered (purchases from suppliers)	0.849	0.361	Valid
22	Employees are able to give high trust to customers	0.891	0.361	Valid
23	Rules or prohibitions thatclearly stated and appropriate while in the store	0.739	0.361	Valid
	Empathy			
24	Clarity of employees in conveying information (easy to understand)	0.953	0.361	Valid
25	Employees are willing to accept suggestions and criticism	0.922	0.361	Valid
26	Good employee intonation in communication	0.766	0.361	Valid
27	Employees Give individual attention to customers	0.939	0.361	Valid

Source: Processed data (2022)

5.2 Pilot Study Respondents Reliability Test

Reliability testing with the provisions of Cronbach's alpha (count r) > 0.60 means the instrument is reliable (Noviyanti, 2018). The reliability test results can be seen in the Table 5 as follows:

Table 5. Reality and Expectation Reliability Test Results

| No | Quality Dimension | Cronbach's Alpha | | Note: |
		Reality	Hope	
1	Tangibles Attribute	0.815	0.923	Reliable
2	Reliability Attribute	0.698	0.799	Reliable
3	Responsiveness Attribute	0.677	0.781	Reliable
4	Attribute Assurance	0.670	0.830	Reliable
5	Attribute Empathy	0.781	0.919	Reliable

Source: Processed data (2022)

5.3 Measurement of Service Quality Gap

This study analyzed the level of customer satisfaction by calculating the gap between the average value of reality and the average value of expectations. The Table 6 shows the gap value of the statement attribute:

Table 6. Servqual Gap Analysis Results

Variable	Attributes Statements	Average Reality	Average Expectation	Gap
Tangible (Physical Evidence)				
T1	Arrangement of goods (layout, order of goods) looks neat or orderly	4.1	4.68	-0.58
T2	Store environment looks clean (inside and outside area)	4.08	4.73	-0.65
T3	Comfortable room temperature	4.25	4.55	-0.3
T4	Adequate seating facilities	4.24	4.32	-0.08
T5	Convenient vehicle parking area (spacious, protected)	4	4.6	-0.6
T6	Neat appearance of employees	4.39	4.68	-0.29
T7	Availability and completeness of existing products (offered)	4.13	4.65	-0.52
T8	The equipment in the shop (not for sale) looks modern	4.37	4.65	-0.28
T9	The inside area makes it easy for customers to move around	4.23	4.67	-0.44
Reliability				
R1	The price offered or provided is quite affordable	4.26	4.4	-0.14
R2	Hours of service on time (open and close shops)	4.27	4.44	-0.17
R3	Availability of existing products is always maintained (cleanliness, seals, laying)	4.17	4.76	-0.59
R4	Clear product information (price, promotion and warranty)	4.3	4.7	-0.4
R5	Cashier service speed	4.09	4.59	-0.5
Responsiveness				
RE1	The queuing system is good, orderly, and clear	4.28	4.67	-0.39
RE2	The services provided are impartial, or give priority to certain parties	4.35	4.71	-0.36
RE3	Employees are quick to respond to customer complaints	4.31	4.66	-0.35
RE4	Employees are willing to help customers if needed	4.07	4.49	-0.42
RE5	Employees have the abilityskilled (experienced)	4.15	4.63	-0.48
Assurance (Guarantee)				
A1	Polite employees in providing service	4.33	4.58	-0.25
A2	Product quality assurance is always considered (purchases from suppliers)	4.22	4.77	-0.55
A3	Employees give high trust to customers	4.41	4.69	-0.28
A4	The rules or restrictions listed are clear and appropriate while in the store	4.32	4.51	-0.19
Empathy				
E1	Clarity of employees in conveying information (easy to understand)	4.29	4.61	-0.32
E2	Employees are willing to accept suggestions and criticism	4.34	4.41	-0.07
E3	Good employee intonation in communication	4.36	4.37	-0.01
E4	Employees give individual attention to customers	4.11	4.66	-0.55
Average		4.24	4.6	-0.36

Source: Processed data (2022)

In the Table 6 above, it can be seen that there is a gap value that is less than zero (<0) then this indicates a gap between expectations and customer perceptions. So, it can be concluded that customers still feel dissatisfied with the services provided by the super dazzle shop.

5.4 Six Sigma Method – DMAIC

1. Define stage

In the define stage, information is searched about Super Dazzle shop via the internet and brief interviews in related fields. At the servqual stage, the definition of attributes and dimensions that become parameters in the assessment of service quality has been carried out. The calculation results show that all attributes have negative gap.

2. Measure Stage

In this study, the satisfaction target to be achieved is a score of 5, which is strongly agree, derived from the satisfaction Likert scale answer from number 1, which is strongly disagree to number 5, which is strongly agree. The results of the calculation of the DPMO value and sigma level are shown in the Table 7 as follows:

Table 7. Baseline Measurement of Outcome Based on Attributes

CTQ	Attributes	Reality (1)	Hope (2)	Gap (3) = (1) - (2)	Satisfaction Targets (4)	Satisfaction Rate (5) = [(1) / (4)]x100%	DPMO (6) = [1 - [(1) / (4)]x1000000	Sigma (7) = normsinv [1 - ((6)/1,000,000)] + 1.5
1	T1	4.1	4.68	-0.58	5	82%	180000	2.42
2	T2	4.08	4.73	-0.65	5	81.6%	184000	2.4
3	T3	4.25	4.55	-0.3	5	85%	150000	2.54
4	T4	4.24	4.32	-0.08	5	84.8%	152000	2.53
5	T5	4	4.6	-0.6	5	80%	200000	2.34
6	T6	4.39	4.68	-0.29	5	87.8%	122000	2.67
7	T7	4.13	4.65	-0.52	5	82.6%	174000	2.44
8	T8	4.37	4.65	-0.28	5	87.4%	126000	2.65
9	T9	4.23	4.67	-0.44	5	84.6%	154000	2.52
10	R1	4.26	4.4	-0.14	5	85.2%	148000	2.55
11	R2	4.27	4.44	-0.17	5	85.4%	146000	2.55
12	R3	4.17	4.76	-0.59	5	83.4%	166000	2.47
13	R4	4.3	4.7	-0.4	5	86%	140000	2.58
14	R5	4.09	4.59	-0.5	5	81.8%	182000	2.41
15	RE1	4.28	4.67	-0.39	5	85.6%	144000	2.56
16	RE2	4.35	4.71	-0.36	5	87%	130000	2.63
17	RE3	4.31	4.66	-0.35	5	86.2%	138000	2.59
18	RE4	4.07	4.49	-0.42	5	81.4%	186000	2.39
19	RE5	4.15	4.63	-0.48	5	83%	170000	2.45
20	A1	4.33	4.58	-0.25	5	86.6%	134000	2.61
21	A2	4.22	4.77	-0.55	5	84.4%	156000	2.51
22	A3	4.41	4.69	-0.28	5	88.2%	118000	2.69
23	A4	4.32	4.51	-0.19	5	86.4%	136000	2.6
24	E1	4.29	4.61	-0.32	5	85.8%	142000	2.57
25	E2	4.34	4.41	-0.07	5	86.8%	132000	2.62
26	E3	4.36	4.37	-0.01	5	87.2%	128000	2.64
27	E4	4.11	4.66	-0.55	5	82.2%	178000	2.42
Average		**4.24**	**4.6**	**-0.36**	**5**	**84.8%**	**152444**	**2.53**

Source: Data processed 2022

From the results of these values, the average satisfaction level is 84.8%, the average DPMO is 152444 and the sigma average is 2.53 from the super dazzle jackal shop. This shows that the quality of service is still far from the 6 sigma and 3.4 DPMO targets. Based on the average value of all attributes, there are several attributes that are still below the average value, including attributes T5 (comfortable vehicle parking area (spacious, protected)), RE4 (employees willing to help customers if needed), T2 (store environment looks good). clean (inside and outside the area)), R5 (speed of cashier service), T1 (arrangement of goods (layout, order of goods) looks neat or orderly), E4 (employees give individual attention to customers), T7 (availability and completeness existing products (offered)), RE5 (employees have skilled skills (experienced)), R3 (availability of existing products is always maintained (cleanliness, seals, laying)), A2 (product quality assurance is always considered (purchases from suppliers)), and

T9 (area inside the store makes it easy customers to move). According to research written by Yolanda et al., (2017) states that attributes that are below the sigma average are said to enter the next stage, namely the analyze stage. With a sigma average of 2.53, if it is less, it goes to the next stage.

3. Analyze stage

Services that are below the average sigma are T5, RE4, T2, R5, T1, E4, T7, RE5, R3, A2, and T9. These attributes are below the average because the reality is much smaller than the respondent's expectations or it can be said that the respondent's expectations are much higher than the existing reality. So that there is a high gap. After knowing the attributes that have values below the average, the next step is to clasify the problem using Pareto diagrams as shown in Figure 2, and then perform the root cause analysis.
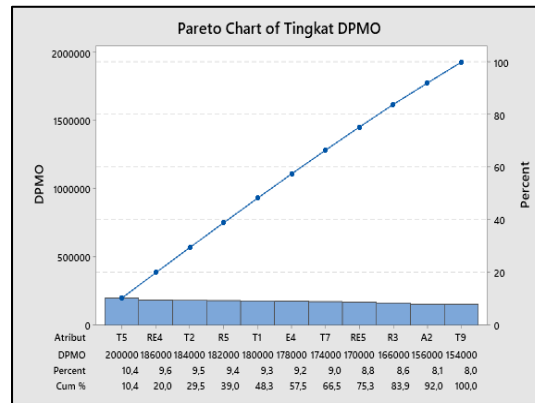

Figure 2 DPMO Level Pareto Chart

From the results of the analysis, it can be concluded that the attributes whose DPMO values are at the trivial few are A2 and T9. For attributes whose DPMO value is at vital few are T5, RE4, T2, R5, T1, E4, T7, RE5, and R3. So it is necessary to improve these priority attributes, as shown in Table 8.

4. Improve Stage

In this stage, the priority attributes are analyzed by finding the root cause and proposing the improvement solution, as shown in Table 8.

Table 8. Service Improvement Proposal

No	Attributes	Root Cause	Solution
1	Uncomfortable parking area (T5)	Narrow parking space, a lots of customer vehicles	Enlarge the parking facility not only in front of the shop but also behind the building.
2	Employees are not fully willing to help customers if needed (RE4)	Employees are not responsive	Conduct the employee training to improve hospitality and responsiveness to customers. Create posters of customer satisfaction
3	The shop environment is not clean (T2)	Cleaning activity only 1x per day	Increase cleaning frequency to 3x per day. Maintain the cleanliness of the store and products.
4	Cashier service speed is less or still slow (R5)	A few numbers of cashiers, there are many customers lining	Increase the number of cashiers.
5	The arrangement of goods (layout, order of goods) still looks untidy or orderly in certain parts (T1)	Items are not classified properly	Tidy up the placement of goods according to the classification of product.

No	Attributes	Root Cause	Solution
6	Employees are lacking in giving individual attention to consumers (E4)	Employees do not care to consumers	Employee training to increase the attention to consumers. Add customer facilities.
7	Lack of product availability and completeness (T7)	Some products are not available	Add the variety of products and availability. Provide the regular monitoring.
8	Unskilled employees (RE5)	Poorly trained employees	Employee training to improve skills. Select the quality human resources for employee.
9	The availability of existing products has not been fully maintained (R3)	The product is not kept clean	Improve cleanliness and maintain product appearance.

Source: Data processed 2022

6. Conclusion

Based on the results of processing and analysis that has been done, it can be concluded as follows:

1. Based on the servqual calculation, it is known that there is a gap between reality and expectations. From all attribute values, there is a gap that has a negative value, so it can be concluded that the customers are not satisfied with the current services provided by the store.
2. Based on data processing with six sigma at the analyze stage using a pareto diagram, the order of attributes as priority for improvement are T5, RE4, T2, R5, T1, E4, T7, RE5, and R3.
3. The improvement recommendation to increase the service quality and customer satisfaction are as follows: Enlarge the parking facility, conduct the employee training to improve hospitality and responsiveness to customers, select the quality human resources for employee, create posters of customer satisfaction, increase the cleaning frequency, increase the number of cashiers, tidy up the placement of goods according to the classification of product, add the customer facilities, add the variety of products and availability, provide the regular monitoring and maintain the cleanliness of the store and products.

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