

# Pertamax Quality: Study of Customer Satisfaction Through Importance Performance Analysis Method in MOR 4 Semarang

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## ABSTRACT

Pertamax is one of the fuels sold by Pertamina with Research Octane Number 92. Pertamax is claimed as the fuel having higher quality than Premium and Peralite because of its good performance and environmentally friendly. However, the sale of Pertamax in Semarang has been stagnant for the last five years. Therefore, it is necessary to determine the way to improve Pertamax quality to enhance the sale of Pertamax. The purpose of this research was to analyse the quality of Pertamax based on customer satisfaction using Importance Performance Analysis method. The population in this research was customers of Pertamax in Semarang with a sample of 100 respondents taken using incidental sampling method. The result showed that Pertamax customers in Semarang are very satisfied toward its quality with level of satisfaction arrives at 87%. Then, it is advisable that Pertamax quality should be improved due the important aspects perceived by Pertamax customers. Based on the perspective of the customers, the performance of Pertamax should be felt by customers since the first use of Pertamax. In addition, Pertamina should have a way to convince customers that Pertamax is more efficient than Premium and Peralite. Last, Gas station operators should be more friendly, polite, and responsive in serving customers.

**Keywords:** *Pertamax, customer satisfaction, IPA*

## 1. INTRODUCTION

Customer satisfaction today holds an important key in determining the success of marketing strategies that were implemented by the company. Customer satisfaction is considered to be able to represent how feasible a product can be accepted by communities and is perceived as one of the dimensions of market performance [1]. Increased customer satisfactions potentially enhance sales growth and market share as a result of repeat purchases; whereas customer dissatisfaction may lead to a number of risks, such as customer complaints, consumer agency protest, government intervention, competitors' reactions, and new substitute product entry to the market.

Pertamina is one of the companies providing fuel oil in Indonesia. Pertamina has a variety of fuel products with various specifications that are sold at varying prices. Competition among companies requires Pertamina to always improve the quality of products sold to the customers. One of the products sold by Pertamina is Pertamax. Pertamax is a fuel that is usually used by gasoline-engine vehicles. Pertamax has a Research Octane Number (RON) 92 which is higher than the specification set by the Director General of Oil and Gas (RON 91) and higher than Premium (RON 88) and Peralite (RON 90). Pertamax is recommended for vehicle engines that have applied technology equivalent to electronic fuel injection and

catalytic converters. Vehicles with these technologies allow vehicles to be more environmentally friendly. The higher RON enables to optimize engine performance, reduce engine damage, and make efficient the use of fuel so that environmental sustainability can be maintained.

A higher RON number creates Pertamax to have better quality than Premium and Peralite. As a consequence, the selling price of Pertamax is also higher than Premium and Peralite. Although the price of Pertamax is more expensive than Premium and Peralite, Pertamax still has its own market share. Pertamax's market share increased in early 2017 where 44% of Premium costumers switched to using Peralite and Pertamax [2].

At present, Pertamax can be found easily in almost fuel stations. In addition, Pertamina often holds promotions to increase Pertamax sales, such as Berkah Energi Pertamina program during 2018 and 2019. This program has succeeded in reducing Premium consumption by 20% [3]. However, Pertamina decided to increase the selling price of Pertamax from IDR 9500 to IDR 10,400 when Berkah Energi Pertamina program was still ongoing [4]. As a result, the price difference between Pertamax and Peralite/Premium has become even higher. The price increase may cause Pertamax consumer to switch back to using Peralite and Premium [5]. Therefore, Pertamina needs to maintain and increase Pertamax market share by increasing customer satisfaction toward Pertamax quality. The quality of the products offered by Pertamax is expected to be able to raise public awareness to switch to using fuel with quality that is in accordance with the technological developments.

To realize the expectation that Pertamax's market share will increase, it is necessary to measure the level of customer

satisfaction toward Pertamina quality. The Importance Performance Analysis (IPA) method is one method that can be used to measure the level of customer satisfaction with the performance of company where the results of the analysis can be used to improve performance [6]. The IPA method provides information relating to what factors the customer believes greatly affect their satisfaction and what factors the customer thinks should be improved by the company.

Based on those backgrounds, this study was conducted to determine the level of customer satisfaction toward Pertamina quality and to improve the quality of Pertamina based on customer satisfaction that was measured using IPA method.

**Table 1** Research variables

<b>Variables</b>	<b>Operational Definition</b>
Pertamax Quality	The ability of Pertamina to demonstrate its function. The indicators used to measure this variable are: 1) Pertamina performance, 2) Pertamina features, 3) Pertamina reliability, 4) Pertamina conformance, 5) Pertamina durability, 6) Pertamina service ability, 7) Pertamina aesthetic, 8) Pertamina perceived quality
Customer Satisfaction	A form of feeling of a customer after comparing the expected Pertamina performance with the actual Pertamina performance. The indicators used to measure this variable are: 1. Expected Pertamina performance 2. Actual Pertamina performance

## 2.2. Population and Sample

Population used in this research was the end customer of Pertamina in Semarang city. Among these end customers, 100 customers were chosen as the sample of this research. The number of samples was calculated using Lemeshow formula with 95% degree of confident and 10% sampling error. The sample was taken through incidental sampling in five fuel stations in Semarang City.

## 2. METHOD

### 2.1. Research Variables

This research was a qualitative study conducted in Pertamina Marketing Operating Region (MOR) 4 at Semarang City. Table 1 shows the variables used in this research.

### 2.3. Data Collection

This research used survey as the method to collect data. Table 2 shows the questionnaire that was used to collect data from respondents. Each positive item in the questionnaire was measured by Likert scale that consisted of five scales from really bad performance to really good performance for measuring actual Pertamina performance based on the customer perception and from not really important to really important for measuring customer expectation from using Pertamina.

**Table 2** Questionnaire indicators

<b>Indicators</b>	<b>Attributes</b>	<b>Item</b>
Performance	The influence of Pertamina toward vehicle engine performance	1
	The influence of RON toward pull of a vehicle engine	2
Features	The speed of Pertamina filling up process	3
	The efficiency of expenditure by using Pertamina	4
	The publication of Pertamina specification	5
Reliability	The conformity of Pertamina specifications to vehicle engine performance	6
	The ease in getting Pertamina	7
Conformance	The Pertamina ability to maintain vehicle engines	8, 10
	The Pertamina ability to maintain sustainability of environment	9
Durability	The efficiency of using Pertamina	11
	The emission vehicle engines using Pertamina	12
Service Ability	The service provided by customer care	13
	The service provided by fuel station operator	14, 15, 16
Aesthetic	The physical characteristics of Pertamina	17, 18
Perceived	The customer pride of using Pertamina	19
Quality	The customer convenience in using Pertamina	20

2.4. Data Analysis

The data was analysed using Importance Performance Analysis (IPA) method. As in Martila & James [7], the steps to conduct IPA consist of:

- a. Calculate the level of customer satisfaction.

$$Tki = \frac{Xi}{Yi} \times 100\% \tag{1}$$

while:

- Tki = the level of customer satisfaction
- Xi = score of actual Pertamina performance
- Yi = score of customer expectation in using Pertamina

As in Sugiyono [8], Table 3 shows the criteria used to classify the level of customer satisfaction.

Table 3 Customer satisfaction level

Score	Level (%)
Very satisfied	81 – 100
Satisfied	66 – 80
Moderate	51 – 65
Not satisfied	35 – 50
Very dissatisfied	0 - 34

- b. Calculating the average score of Pertamina actual performance and customer expectation of using Pertamina

$$\bar{X} = \frac{\sum_{i=1}^N \bar{X}_i}{K} ; \bar{Y} = \frac{\sum_{i=1}^N \bar{Y}_i}{K} \tag{2}$$

while:

K = total attributes

- c. Plotting  $\bar{X}$  and  $\bar{Y}$  into Matrix Importance Performance Analysis

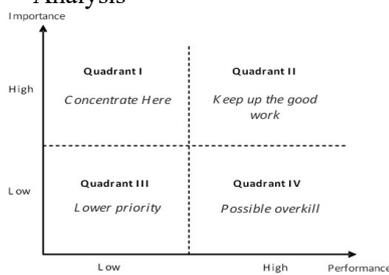


Figure 1 Matrix Importance Performance Analysis

3. RESULTS AND DISCUSSION

3.1. Validity And Reliability Tests

Pilot test was conducted to 30 respondents out of 100 respondents that become the research sample. The validity of questionnaire was tested using Pearson Product Moment and the result is shown at table 4. For 30 respondents, the score of R table with 5% significance value is 0.361. It can be seen from table 4 that the score of R calculation in each

item is higher than 0.361, therefore it can be concluded that the items in the questionnaire are all valid. Reliability of the questionnaire was tested using Cronbach's Alpha test. It can be seen in table 5 that both questionnaires are reliable since the value of Cronbach's Alpha is higher than 0.60 [8].

Table 4 Validity test result

Item	R Table	R Performance	R Expectation	Status
1	0.361	0.451	0.463	Valid
2	0.361	0.596	0.480	Valid
3	0.361	0.512	0.423	Valid
4	0.361	0.788	0.686	Valid
5	0.361	0.592	0.501	Valid
6	0.361	0.646	0.506	Valid
7	0.361	0.395	0.581	Valid
8	0.361	0.657	0.727	Valid
9	0.361	0.703	0.531	Valid
10	0.361	0.578	0.432	Valid
11	0.361	0.806	0.690	Valid
12	0.361	0.673	0.743	Valid
13	0.361	0.592	0.607	Valid
14	0.361	0.554	0.592	Valid
15	0.361	0.499	0.604	Valid
16	0.361	0.561	0.625	Valid
17	0.361	0.412	0.600	Valid
18	0.361	0.613	0.571	Valid
19	0.361	0.643	0.378	Valid
20	0.361	0.739	0.572	Valid

Table 5 Reliability test result

Questionnaire	Cronbach's Alpha	Status
Expectation	0.881	Reliable
Performance	0.909	Reliable

3.2. Pertamina Customer Characteristics

From the questionnaires that were distributed to 100 respondents, the information regarding Pertamina customer characteristics in Semarang City are generated. From table 6 and table 7, the information that can be derived is that the majority of Pertamina customer was female whose age between 17 years old and 27 years old and worked as entrepreneur.

Table 6 Pertamina customer characteristics based on gender and age

Age (years old)	Gender		Total
	Female	Male	
17 – 27	55	30	85
28 – 38	5	10	15
Total	60	40	100

Table 7 Pertamina customer characteristics job type

Job	Total
College student	31
Entrepreneur	36
Civil servant	19
Others	14

### 3.3. Customer Satisfaction Based on IPA Method

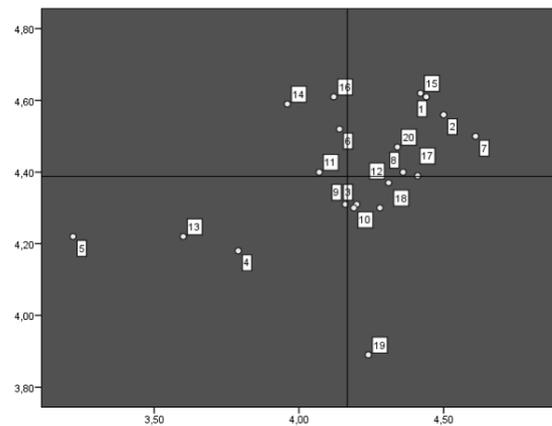
Analysis of the level of customer satisfaction can be seen through the index of customer satisfaction on the actual performance of Pertamina and the index of customer expectations in using Pertamina

**Table 8** Pertamina customer satisfaction

Item	Actual Performance	Expectation	Level
1	4.44	4.61	96%
2	4.50	4.56	99%
3	4.20	4.09	100%
4	3.79	4.18	91%
5	3.22	4.22	76%
6	4.14	4.52	92%
7	4.61	4.50	100%
8	4.36	4.40	99%
9	4.16	4.31	96%
10	4.19	4.30	99%
11	4.07	4.40	93%
12	4.31	4.37	99%
13	3.60	4.33	85%
14	3.96	4.59	86%
15	4.42	4.62	96%
16	4.12	4.61	89%
17	4.41	4.39	100%
18	4.28	4.30	99%
19	4.24	3.89	100%
20	4.34	4.47	98%
Total	83.36	95.97	87%

Based on the information derived from table VIII, the customer satisfaction on using Pertamina is 87%. This means that customers were very satisfied on using Pertamina. The most satisfying performance for customers was the ease in getting Pertamina since Pertamina can be found at every fuel station. Meanwhile, the one that is really expected by Pertamina customers was the ease of making payment at fuel stations.

Cartesian diagram quadrant was used to determine the Pertamina quality indicators that are satisfactory and unsatisfactory for customers. With the value of  $\bar{X} = 4.618$  and  $\bar{Y} = 4.3885$ , the classification of Pertamina quality indicators can be determined as shown in figure 2 and table IX.



**Figure 2** Pertamina Quality Classification – IPA Method

The first quadrant contains indicators that are considered important by customers, but the realization of company performance according to the customers does not meet customer expectation [7]. The company needs to focus on improving the indicators in this quadrant so that the customers will not leave the company when new competitors emerge. According to the information provided in table IX, the fuel station service, the evidence that Pertamina works well since the first use of Pertamina, and the efficiency of using Pertamina are considered important for customers, however customers measure that Pertamina needs to improve those indicators to meet the customer expectation. Therefore, it is necessary for Pertamina to implement following strategies:

- Prove the quality of Pertamina to the public so that people believe more that Pertamina provides benefits for vehicle engines from the first use of Pertamina. The evidence should be published to the public so that people become aware that Pertamina has higher quality than Premium and Peralite.
- Promote that Pertamina has higher efficiency than Premium and Peralite due to higher specifications that Pertamina has. The promotion can be done through the use of social media and mouth by mouth publication.
- Improve the services provided by fuel stations operators and managements by holding training regarding how to service politely, friendly, and responsively to the customers.

The second quadrant consists of the indicators that are considered important by customers and the company is able to meet customer expectation. Under this circumstance, the company should keep the good work [7]. Table 9 provides the information that customers measure that Pertamina has a good effect on their vehicle engines, Pertamina is easy to be found in every fuel stations, Pertamina payment can be easily conducted in the fuel stations, Pertamina is easy to distinguish from other products, and Pertamina is able to make comfort for its users. Pertamina then should consider about these good works and continue to maintain those Pertamina's strong points.

**Table 9** Classification of pertamax quality – IPA method

Quadrant	Item	Statement
Quadrant I (Concentrate Here)	6	The benefit of Pertamax can be seen since the first use
	11	Pertamax is more efficient than Premium and Peralite
	14	Fuel station operators are polite and friendly
	16	Fuel station operators are responsive in serving their customers
Quadrant II (Keep Up the Good Work)	1	Pertamax is able to maximize vehicle engines performance
	2	Pull of vehicle engine using Pertamax feels lighter and smoother compared to using Peralite and Premium
	7	Pertamax is easily found in every fuel station
	8	Vehicle engines using Pertamax are cleaner than those using Peralite and Premium
	15	Pertamax payment at fuel stations can be conducted easily
Quadrant III (Low Priority)	17	The blue color of Pertamax make it easy to distinguish Pertamax from other products
	20	Pertamax creates comfort for its users
	4	The use of Pertamax creates less expenditure for purchase and engine service costs.
	5	Information regarding Pertamax specification and benefit can be easily found.
Quadrant IV (Possible Overkill)	9	Pertamax is more environmentally friendly compared to Peralite and Premium
	13	Customer care provides well services to the customers
	3	A long queue occurs in purchasing Pertamax at fuel stations
	10	RON 92 influences the performance of vehicle engines
	12	The engine emissions produced by Pertamax are cleaner than Peralite and Premium
	18	The color of Pertamax is clear
	19	Pertamax is able to create pride for the customers

The third quadrant consists of the indicators that are not considered important by customers and the actual performance of these indicators, based on customer perception, is not the focus of the customers. As shown in table IX, costumers have little understanding that the use of Pertamax is able to save fuel and service costs. One function of RON is to fasten combustion process in the engine so that knocking can be avoided. The faster and well-run combustion will affect in the efficiency of Pertamax usage. In addition, customers also have little knowledge that Pertamax is environmentally friendly fuel and Pertamina has customer care where customers are able to make complaints.

The last quadrant consists of the indicators that are not considered important by customers, but the company emphasizes their focus on running these indicators. The indicators included in this quadrant are shown at table IX. Based on the survey to the respondents, respondents understand that Pertamax makes them comfort with their vehicle engines, however customers have little horizons about what factors that make Pertamax is capable of working effectively.

#### 4. CONCLUSION

The Importance Performance Analysis is useful method to determine level of customer satisfaction on product quality and strategies that are needed to develop the quality. Based on the result of the research, it can be concluded that Pertamax customers are very satisfied with the quality of Pertamax with the level of satisfaction arrives at 87%. However, some strategies are required to improve Pertamax quality since customers perceive that few qualities are under customer expectation. The one that should be conducted by Pertamina is to socialize the benefit of using Pertamax so that people are aware with those benefits since the first use. It is also advisable to increase the services provided by fuel station management and operators.

Some limitations are found in this research due to the use of survey as the only method to collect data. There are some difficulties in controlling whether the answers given by respondents were appropriate with the true condition. In addition, respondents did not have much time to fill out questionnaires because it might lengthen the Pertamax filling queue. Therefore it is advisable to the next research to use additional methods to measure customer satisfaction, such as lost customer analysis.

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