

E-Satisfaction Analysis of PLN Mobile Application Users Using E-Servqual Dimensions as a Service during the COVID-19 Pandemic

Amarista Coirolla¹, Tri Lestira Putri Warganegara²

^{1,2}Faculty of Economics and Business, University of Bandar Lampung, Jl. Zainal Abidin Pagar Alam No. 26, Labuhan Ratu, Kedaton, 35142, Bandar Lampung, Indonesia

Corresponding Author: Amarista Coirolla

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ABSTRACT

Advances in technology have made companies innovate to support their activities, including PT. PLN (Persero). In 2016 PT. PLN (Persero) has succeeded in releasing a digital-based customer service application to facilitate customers named PLN Mobile. PT. PLN (Persero) ULP Karang is one of the customer service units under the Tanjung Karang Network Service Area which has started to carry out service activities through the PLN Mobile. The goal of the authors of this observe was to analyze the level of user satisfaction of PLN Mobile application using the e-servqual dimensions. This research is based on a quantitative descriptive approach which distributes a list of questions to 96 coral customers who use the PLN Mobile. From the respondents' answers, the gap value will be calculated using GAP reviews and Importance Performance Analysis (IPA) techniques. Based on the outcomes of the GAP reviews between expectations and performance, the highest level of GAP is obtained at attribute number 20 and attribute number 21 with a value of -1.40 which is included in the fulfillment. The result from the calculated using Importance Performance Analysis (IPA) is that 3 out of 25 attributes are covered in quadrant A, specifically attribute number 14 with 70% conformity level entered into dimension fulfillment, attribute number 20 and attribute number 21 which are included in the responsiveness with the same level of conformity that is 96%.

Key Words: PLN Mobile, E-servqual, Importance Performance Analysis (IPA), Expectations, Performance.

INTRODUCTION

Advances in information and communication technology have changed human life. The advanced civilization we can see today is the smartphone. More than 100 million people in Indonesia use smartphones ranging from children to adults. Data was obtained through the website databoks katadata, a graph of the penetration of smartphone in Indonesia which explains the increase in the number of smart phone users starting from 2015 until the prediction of 2025.

Smartphone Penetration In Indonesia

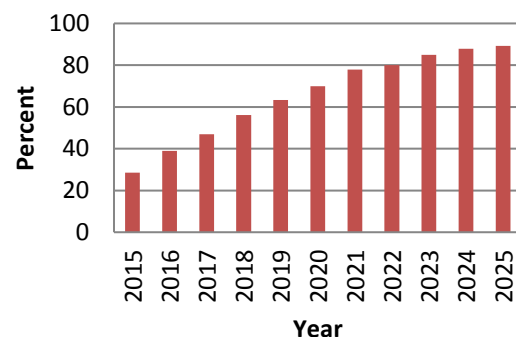


Figure 1. Chart of Smartphone Penetration Until 2025

Information technology advances and communication is currently supported

by the Covid-19. On March 2, this virus was first detected in Indonesia. As a result of the Covid-19 is very influential on social aspects, as well as aspects of information and communication technology. In an effort to prevent an increase in people affected by Covid-19, the government has issued several policies such as maintaining health protocols, implementing social distancing, learning is done online, and all forms of work activities are carried out from home so that public service providers can develop innovations in services.

Seeing the increasing number of people who use electronic media in finding information, many companies have started to innovate in providing digital-based services to carry out their activities in order to make it easier for people to receive the services provided. Because basically the Covid-19 creates a new situation for changes in business models that are already running (1). PLN Mobile is a digital-based customer service application released by PT. PLN (Persero) in 2016. This application was created to make it less complicated for customers to make proceedings and other services more easily. PT. PLN (Persero) ULP Karang is one of the units that serve customers around the Karang area. In previous operational activities, service activities were carried out conventionally, but during the Covid-19 all forms of service activities were directed through electronic media such as Call Center 123 and the PLN Mobile.

Based on customer complaint report data through electronic media, there is a very big difference between the two electronic service media owned by PT. PLN (Persero). The number of customers who report complaints through the PLN Mobile from 2020 to 2021 is less than the number of customers who report complaints through Call Center 123. In 2020 the highest number of complaints reports with a total of 2,655 reports occurred in December but the number of complaints reports came from the PLN Mobile application was only 76 reports and 2,579 other reports came from the Call

Center 123. In 2021 the highest number of complaint reports occurred in June with a total of 4,206 reports, the same as in 2020 the number of reports originating from the PLN Mobile application in 2021 was only 306 reports from the PLN Mobile application and 3,900 other reports from Call Center 123. Looking at the facts, this observation has the goal of analyzing the user of PLN Mobile use dimensions of e-servqual so that they we can know what dimensions and attributes are still not optimally implemented.

LITERATURE REVIEW

The performance of a company is influenced by every management step that is carried out (2). Marketing management is also defined as demand management which helps an organization to achieve its goals (3). Marketing management is an activity carried out with the aim of making a profit, developing the company, and maintaining the company by providing satisfaction to consumers (4). So that it means marketing management is a management process consisting of planning, organizing, implementing, controlling every course of marketing activities in an organization.

E-satisfaction which means online customer satisfaction is the response given by consumers regarding the comfort they get from the appearance of the site, as well as how to transact, as well as the services provided to customers online (5). Customers Online are satisfied when customers receive good electronic services (6). When customers have felt high satisfaction with transactions and online services provided, it will increase interest in continuing to use. The customers who are satisfied with the given performance affect the enterprise's profitability (7).

Quality is used as a measure to determine the goodness of products and services that can be seen from the design and quality of conformity (8). Service Quality is an action that the company provides to consumers with the aim of meeting the expectations of the consumers

themselves (9). E-Servqual is the customer's perception of service quality via the internet, adjusted to the customer's assumptions regarding the performance of the services provided (10). E-Servqual Explained by Parasuraman et al., e-servqual is a continuation of the servqual because nowadays all forms of selling products and services are done online (11). There are seven dimensions of e-servqual according to Parasuraman in Tjiptono & Chandra including compensation, efficiency, reliability, fulfillment, responsiveness, and contact (12).

A company's performance can be compared with customer expectations using the IPA method. Importance Performance Analysis (IPA) is a development concept proposed by Martilla & James from the concept of service quality (SERVQUAL). According to Lupiyoadi this concept, namely Importance Performance Analysis (IPA) is used in measuring by comparing user expectations with the quality of services provided (13).

RESEARCH METHODOLOGY

Descriptive quantitative approach is the approach the author chose to help complete this research. Quantitative method are research in which populations or samples are processed using research instruments and analyze statistical data where this method has the aim of testing a hypothesis (14). Meanwhile, according to Lestira et al, descriptive analysis is an analytical tool that helps in providing clarity about the circumstances that occur from a fact's (15). Likert scale is used to measure variables. Based on the research, this population comes from the number of customers who report complaints via electronic media from 2020 to 2021.

In determining the sample, the researcher uses a non-probability sampling. The sample studied amounted to 96 people the Slovin formula the author used to calculate the number of samples in this study with the following formulation:

$$n = \frac{N}{1 + NE^2}$$

So the total of the samples are:

$$n = \frac{N}{1 + \frac{NE^2}{2.724}}$$

$$n = \frac{N}{1 + \frac{2.724(0.1)^2}{2.724}}$$

$$n = \frac{N}{1 + \frac{2.724(0.01)}{2.724}}$$

$$n = \frac{N}{28.24}$$

$$n = 96.45$$

Primary data was obtained by the author directly by distributing questionnaires to customers, namely those using the PLN Mobile in the Karang area and conducting interviews with several existing customers. In addition to interviews with customers, interviews were also conducted with employees of PT. PLN (Persero) ULP Karang. Secondary data obtained from literature review through literature study by studying the theory of the Importance Performance Analysis (IPA) and previous research so as to help the author to know the basis for solving the problems in this research.

Instrument Requirements Test

To find out how accurate the questions in the questionnaire are, the validity test is used with the provision of 95% confidence level or $\alpha = 0.05$. The test was carried out using the help of Ms. Excel and IBM SPSS 20 software, with the following equation:

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{\sum x^2 - (\sum x)^2} \sqrt{N \sum Y^2 - (\sum y)^2}}$$

Description:

r_{xy} : Correlation coefficient

N : Quantity of subjects

X : Score variable x

Y : Score variable y

$\sum x$: Accumulated score variable x

$\sum y$: Accumulated score variable y

$\sum x^2$: Accumulated squared score item

$\sum y^2$: Accumulated squared total score

Each of the questions will be tested using a reliability test in order to determine

the level of reliability of each question content provided that if Cronbach's alpha \geq 0.6 (14) then the attribute is said to be reliable.

$$\frac{k}{k-1} \left(1 - \frac{\sum S^2_j}{S^2_x} \right)$$

Explanation:

- a : Reliability coefficient alpha
- k : Sample accumulation
- S² j : Accumulated squared variation of respondents
- Sx : Accumulated total score

GAP Analysis

To calculation of GAP value or gap using the following equation (12):

$$\text{GAP} = \text{Performance Score} - \text{Expectation Score}$$

Importance Performance Analysis (IPA)

Martilla & James said in Yola & Budianto a method to help compare performance with the level of satisfaction desired by customers, we can use Importance Performance Analysis (IPA) (16).

In finding the value of Tki (suitability) can use the following formulation:

$$\text{TKi} = \frac{X_i}{Y_i} \times 100\%$$

Remarks.:

- Tki : Score conformity
- Xi : Performance Value i
- Yi : Expected Value i

To find out where the existing attributes are calculated using the following formulation:

$$\bar{Y} = \frac{\sum y_i}{n} \quad \bar{X} = \frac{\sum x_i}{n}$$

Description:

- \bar{X} : Average score level performance
- \bar{Y} : Expected Average Score
- n : Accumulation of respondents

RESULTS AND DISCUSSION

The results obtained based on calculations using the IBM SPSS 20 software with the 94th r table value of 0.201 and with a 95% confidence level or $\alpha = 0.05$ then all questions are said to be valid. With the same software in performing the reliability test, the author's expectation level obtained results that were $0.896 \geq 0.6$ and the performance level was $0.726 \geq 0.6$ so that all questions were said to be reliable.

Based on the GAP calculation that has been done, the highest GAP value is obtained at attribute number 20 and attribute number 21, both of which are included in the dimension of responsiveness with a GAP result of -1.44. For the lowest GAP value, attribute number 10 with a GAP value of -0.02 is included in the reliability. The dimension that has reached customer satisfaction and there is no GAP value is the efficiency.

The value of the level of conformity obtained using the Importance Performance Analysis (IPA) method, the statement with the lowest conformity value with a value of 69% is located on attribute number 20 and attribute number 21. These two attributes indicate that customers of PT. PLN (Persero) ULP Karang, which uses the PLN Mobile falls into the category of being quite satisfied with the services provided when reporting complaints or disturbances.

The results of the calculation of the average score of the attributes are then entered into the Importance Performance Matrix with the following results:

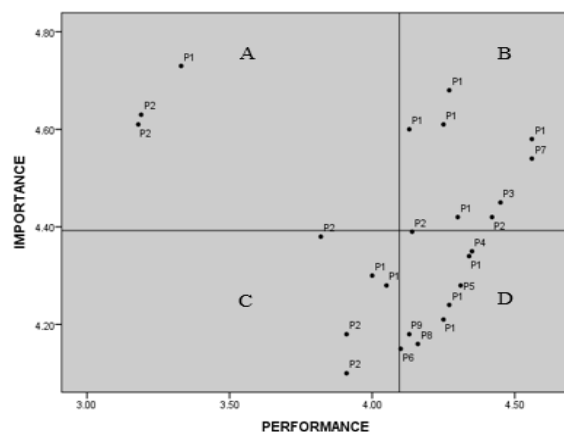


Figure 2. Importance Performance Matrix

Description:

- Quadrant/Part A: High Priority
- Quadrant/Part B: Maintain Achievement
- Quadrant/Part C: Low Priority
- Quadrant/Part D: More Performance

Based on the figure 2 above, it is found that there are 3 (three) criteria that are included enter this quadrant are performance that needs more attention or must be improved because the performance provided is not optimal. Included in quadrant A are:

Table 1 Attributes of Quadrant A

Quadrant B	Attribute	Dimensions	Average		GAP
			Y	X	
14	PLN Mobile serves customers thoroughly.	Fulfillment	4.73	3.33	-1.40
20	Admin or customer service follows up customer complaints quickly.	Responsiveness	4.63	3.19	-1.44
21	Admin or customer service follows up customer disruption quickly.	Responsiveness	4.61	3.18	-1.44

Data source: Primary Data, processed in 2022

B has the meaning of maintaining achievement where the customer considers that the attribute is important and has provided performance that meets the

expectations of the customer. Based on the mapping on the Importance Performance Matrix, the following table contains the attributes included in part B:

Table 2 Attributes of Quadrant B

Quadrant B	Attributes	Dimensions	Average		GAP
			Y	X	
2	PLN Mobile saves customer energy to get service.	Efficiency	4.42	4.42	0
3	PLN Mobile saves customer costs for services.	Efficiency	4.45	4.45	0
7	PLN Mobile provides notifications when the electricity maintenance process occurs.	Reliability	4.54	4.56	0.02
10	PLN Mobile has a complete electricity bill payment feature.	Reliability	4.58	4.56	-0.02
15	Ease of language used in PLN Mobile application.	Fulfillment	4.42	4.30	-0.11
16	PLN Mobile provides information security and is not accessible to those who should not.	Privacy	4.60	4.13	-0.48
17	PLN Mobile has guaranteed customer data that is safe.	Privacy	4.68	4.27	-0.41
18	PLN Mobile has a login id before using transactions.	Privacy	4.61	4.25	-0.36

Data source: Primary Data, processed in 2022

Quadrant C means low priority attributes are considered less crucial for customers and their performance is not too

optimal. This following is a questionnaire statement which is in quadrant C:

Table 3 Attributes of Quadrant C

Quadrant C	Attributes	Dimensions	Average		GAP
			Y	X	
12	PLN Mobile has easy to understand service procedures.	Fulfillment	4.42	4.30	-0.11
13	PLN Mobile has transaction procedures that can reduce information input errors.	Fulfillment	4.60	4.13	-0.48
23	Compensate customers for errors made by the application.	Compensation	4.38	3.82	-0.55
24	It has chat or message service feature to serve customers.	Contact	4.10	3.91	-0.20
25	It has a telephone service feature to serve customers.	Contact	4.18	3.91	-0.27

Data source: Primary Data, processed in 2022

Quadrant D Importance Performance Matrix explains that low priority where customers perceive that the attributes that enter the section are considered less important but the company provides high performance. With the high performance

that makes customers using the PLN Mobile feel very satisfied with the services provided on this attribute. The following is a questionnaire statement which is in quadrant.

Table 4 Attributes of Quadrant D

Quadrant D	Attribute	Dimensions	Average		GAP
			Y	X	
1	PLN Mobile saves customers time to get service.	Efficiency	4.34	4.34	0
4	Paying electricity bills is more practical with the PLN Mobile.	Efficiency	4.35	4.35	0
5	Buying electricity tokens is more practical using the PLN Mobile app.	Efficiency	4.31	0.03	0.03
6	PLN Mobile provides notifications when releasing new promotions	Reliability	4.15	4.10	-0.04
8	PLN Mobile always updated in providing the latest information.	Reliability	4.16	4.16	0

9	PLN Mobile has complete customer service features	Reliability an	4.18	4.13	-0.05
11	PLN Mobile attractive appearance.	Fulfillment	4.27	4.27	0.03
19	PLN Mobile has a fast application reactivation service.	Responsiveness	4.25	0.04	0.04
22	Customers get rewards for using the PLN Mobile application	Compensation	0.25	4.14	-0.25

Data source: Primary Data, processed in 2022

CONCLUSION

Based on what has been explained regarding the results of research to analyze customer satisfaction using the e-servqual it can be concluded that the suitability between customer expectations and service capacity obtained the highest value on conformity, namely instructions number 20 and clue number 21 with a value of 69% and entered into the dimension of responsiveness.

Based on calculations using GAP analysis, the highest GAP value is obtained, in the responsiveness of attribute number 20 and attribute number 21 with a GAP score of -1.44 and a level of conformity of 69% which is then followed by attribute number 14 which is included in dimension of fulfillment with a GAP score of -1.40 70% conformity level. The greater the GAP score, the greater the gap between what customers expect of PT. PLN (Persero) ULP Karang on the performance given on the PLN Mobile.

Based on the outcomes of calculations and mapping using the Importance Performance Analysis (IPA) method, the attributes that are the main priority that need to be considered and need improvement are the instructions that enter quadrant A, including the time when responding to customer complaint reports, speed in responding to disturbance reports. customers, and provide complete service.

SUGGESTIONS

Based on the results studied, the authors state suggestions that if it can be useful for PT. PLN (Persero) ULP Karang which is expected to be useful for improving the quality of service on the PLN Mobile.

Pay attention to and improve the attributes that fall into the high priority level or quadrant A, as well as improve the quality

of service on dimensions that have not been maximally implemented.

Increase the number of admins or customer service to respond to customer complaint reports and customer disturbance reports in order to complete reports quickly and thoroughly.

Conduct socialization regarding the PLN Mobile and explain service features and how to use them directly to customers.

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