

## The Effect of Electronic Service Quality and Promotion on the PLN Mobile Application on PLN ULP Sungguminasa Customer Satisfaction in Gowa Regency in the Era of the Covid-19 Pandemic

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### Abstract

*The purpose of this study was to determine the effect of the quality of e-services and promotions on the PLN Mobile application on customer satisfaction at PLN ULP Sungguminasa in Gowa Regency using the PLN Mobile application. The sampling technique uses a non-probability sampling model with a purposive sampling method. The method used in this research is quantitative. Then for the analysis technique using multiple linear regression analysis. Based on the results of hypothesis testing as a whole, it shows that the e-service quality and promotion variables simultaneously have a positive and significant effect on customer satisfaction as users of the PLN Mobile application and the results of the partial hypothesis test show that the e-service quality variable has a positive and significant effect,*

**Keywords:**E-service Quality, Promotions, Customer Statistics, PLN Mobile

### INTRODUCTION

Electricity is one of the basic needs that is used every day. Every human being uses electricity for various needs ranging from lighting to industrial needs, communications, and other activities. The need for electricity is always increasing from time to time, and the government as a public service provider must meet this demand.

Technological developments are currently increasingly sophisticated and fast, especially information and communication technology. One of the most widely used technologies by humans is Smartphone / Android as an aid in carrying out activities that provide various information and communication. Android is an operating system for Linux-based mobile devices that includes an operating system, middleware and applications. Android provides an open platform for developers to create their applications.

With the current technological developments that are getting faster, it requires various companies to develop their business by pampering their customers so that they can provide convenience or appropriate and fast solutions according to the needs and desires of customers, so that customers feel satisfied and will continue to subscribe to the products or services offered by the company.

In Indonesia itself electricity is the only company managed by PT. PLN (Persero) under the auspices of a State-Owned Enterprise (BUMN) which controls, provides and serves the electricity needs of the community. The State Electricity

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Company (PLN) is a State-Owned Enterprise (BUMN) entrusted by the state to take care of all aspects of electricity in Indonesia. As clear proof of concern for its customers, PLN launched the PLN Mobile application. PLN first released this application on 31 August 2016 by the PLN Directors to coincide with the 71st National Electricity Day ceremony.

The PLN Mobile application is a Customer Self Service mobile application that is integrated with the Integrated Complaints and Complaints application (APKT) and the Centralized Customer Service Application (AP2T) which is used to make integrated complaints and complaints, it is easier for customers to get information from features, including check billing and token history, purchase electricity tokens, request new installations, power changes, temporary connections, check status of complaints and requests, information on the latest electricity rates, the latest news about PLN, information on electricity maintenance and contact the PLN contact center. The PLN Mobile application can be obtained by customers by downloading and installing it through the Google Play Store, App Store, etc.

Covid-19 is an infectious disease caused by the SARS-CoV-2 virus, an abbreviation for Covid-19 from Corona Virus Disease 2019, a new virus that occurred in 2019. The initial occurrence of this virus was in cases of pneumonia with an unknown cause, namely on December 12, 2019 in Wuhan China that happened to the Huanan fish market traders, and also they sell livestock and wild animals. One of the PLN branches located in Gowa Regency, to be precise at PLN ULP (Customer Service Unit) Sungguminasa, which is located at Jalan Tumanurung No.5 Kalegowa, is currently optimizing the use of the PLN Mobile application by introducing the PLN Mobile application to customers because there are still many customers who do not know the application. ULP (Customer Service Unit) Sungguminasa as a service implementing unit for customers around the Sungguminasa area. PLN ULP Sungguminasa always serves customers and also receives customer complaint reports. PLN ULP Sungguminasa received customer complaint reports via electronic media with a total of 4,841 customer complaints.

Every company must have responsibility for electrical aspects for Indonesian society, so from PT. PLN must respond to complaints to consumers such as, if customers have problems and they cannot solve them quickly, meter recording or kwh usage, inaccurate billing, queuing payment systems, simultaneous power outages due to bad weather, service delays.

From these complaints it can be seen that the problems experienced by customers can be helped by the presence of the PLN Mobile Application. Even this application is very easy and practical for customers in terms of service which can make it easier for the public to complain / complain and also receive all the latest information from PT. PLN, and customers also don't waste their time coming to the central service office in this era of the Covid-19 pandemic.

With the PLN Mobile Application, it can make it easier for customers in the Covid-19 Pandemic Era. Customers do not need to go to the center to make electricity payments and customers can easily submit complaints about electrical disturbances that occur to them. It is easier for customers and potential customers to get information about electricity bills.

Promotion is one way to introduce products to consumers. With promotions, of course it will be easy to attract customers to use the new product from PLN. PLN presents the PLN Mobile application so that customers can easily make transactions and report complaints.

One of them in the Sungguminasa area is to carry out promotions by posting on social media, flyers, outreach to the community. Meanwhile, according to (Zehir & Narcikara 2016: 142) defines customer satisfaction is the ability of a website to facilitate shopping, purchasing, and delivery of products and services effectively and efficiently.

Based on the description above, the authors decided to conduct research with the title "The Effect of Electronic Service Quality, and Promotion on PLN MOBILE Applications on Customer Satisfaction in the Covid-19 Pandemic Era (Case Study on PLN ULP Sungguminasa Gowa Customers)".

Several previous studies have shown that the variable quality of electronic services and promotions has a positive and significant effect on customer satisfaction. Fifin Anggraini (2020) in his research that promotion has a significant and positive effect on satisfaction. Then in Gloria Rebeka Lengkey's research (2022) that the quality of electronic services has a significant influence on customer satisfaction.

This study aims to determine the effect of the quality of electronic services and promotions on the PLN Mobile application on customer satisfaction at PLN ULP Sungguminasa in Gowa Regency.

## LITERATURE REVIEW

### Electronic Service Quality

According to Lewis & Booms (in Tjiptono, 2012: 157) defines the quality of electronic services in a simple way, which is a measure of how well the level of service provided is able to match customer expectations. Another definition of Electronic Service Quality is a measure of the extent to which a given customer can meet customer expectations (Assegaff, 2009:173).

### Promotion

Stanton in Weenas (2013: 608) states that promotion is an activity carried out by companies to highlight product features and persuade consumers to buy. Promotion according to Kotler in Weenas (2013: 609) is a marketing effort that provides various short-term intensive efforts to encourage the desire to try or buy

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promotions aimed at influencing buying behavior, but the main promotional objectives are to inform, persuade and remind.

**Customer satisfaction**

Kotler (2007: 177) defines customer satisfaction as a person's feelings of pleasure or disappointment that arise after comparing the performance (outcome) of the product in question with the performance (or result) expected. If performance falls below expectations, the customer is dissatisfied. If performance meets expectations the customer is satisfied. If performance exceeds expectations, the customer is highly satisfied or delighted.

**METHOD**

The method used in this research is quantitative. The data collection technique used is through a questionnaire or questionnaire. The population of this study is all PLN ULP Sungguminasa customers in Gowa Regency who use the PLN Mobile application, which currently totals 31,499 customers. The technique used in taking the sample used the nonprobability sampling method with a purposive sampling technique, namely "All PLN ULP Sungguminasa customers in Gowa Regency who use the PLN Mobile application" To get a sample that can represent the population, the researcher used the slovin formula:

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

Information :

n = Sample Size

N = Population size

e = the percentage of inaccuracy due to sampling errors that can still be tolerated, namely 10% (0.1)

Based on the Slovin formula, the sample size is obtained as follows:

$$n = \frac{29.610}{1+29.610 (0,1)^2}$$

$$n = \frac{29.610}{1+29.610 (0,01)}$$

$$n = \frac{29.610}{297,1}$$

n = 99,663 respondents or if rounded up to 100 respondents.

By using the Slovin formula, the number of samples that will be used as respondents in this study is 100 respondents.

A research variable is an attribute or characteristic or value of a person, object or activity that has certain variations determined by research to be studied

and then conclusions drawn (Sugiyono, 2012: 61). The variables in this study consist of the independent variables (free variables) namely the quality of electronic services (X1), promotions (X2) and the dependent (tied) namely customer satisfaction (Y).

The operational definition of this research is:

**Electronic Service Quality (X1)**

Electronic service quality is how good the service received by consumers is to experience the facilities of the PLN Mobile application. The indicators of the quality of electronic services are the efficiency of the application that can facilitate customers, the reliability of the ability of the PLN Mobile application to perform the promised services correctly, the fulfillment of the PLN Mobile application to provide services according to customer requests, application privacy can protect customer data. The scale used is the Likert scale.

**Promotion (X2)**

Inform customers of the benefits of the PLN Mobile application to encourage and persuade customers to buy these products and services. The promotion indicators are the quality of the media used in promoting the product, the quantity, the price of the product is affordable. The scale used is the Likert scale.

**Customer Satisfaction (X)**

To what extent do customers feel after using the PLN Mobile application. The indicators on customer satisfaction are applications that meet customer expectations. The scale used is the Likert scale.

Analysis of the data used in this study is the multiple linear regression test, and test the coefficient of determination ( $R_2$ ).

**RESULTS AND DISCUSSION**

**Results**

**Descriptive Analysis**

*Table 1. Gender*

No	Jenis Kelamin	Frekuensi	Persentase
1	Laki-Laki	26	26%
2	Perempuan	74	74%
	Jumlah	100	100%

Known in table 1 that In this study, it was dominated by female sex with a frequency of 74 people or 74%, while men with a frequency of 26 people or 26% because women more often use the PLN Mobile application to make transactions such as buying electricity vouchers or making complaints to parties. PLN when there is a blackout.

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*Table 2. Last Education*

No	Pendidikan	Frekuensi	Persentase
1	S1	77	77%
2	SMA	23	23%
	Jumlah	100	100%

Table 2. shows that in this study, 77 people or 77% were dominated by educational background respondents, namely S1. Therefore, with the trend of people using online services for their work.

*Table 3. Profession / Occupation*

No	Profesi / Pekerjaan	Frekuensi	Persentase
1	Pelajar / Mahasiswa	8	8%
2	Pegawai / Karyawan	74	74%
3	Wiraswasta	6	6%
4	Lain-Lain	12	12%
	Jumlah	100	100%

In Table 3. that this study was dominated by professional respondents, namely employees / employees with a total of 74 people or 74% of respondents. This is due to the fact that the majority of employees/employees have a fixed income and therefore they are able to have electricity consumption in a month.

*Table 4. Monthly Electricity Consumption*

No	Pemakaian Listrik Perbulan	Frekuensi	Persentase
1	< Rp. 500.000,-	31	31%
2	Rp. 600.000,- sampai dengan Rp. 1.000.000,-	65	65%
3	> Rp. 1.100.000,-	4	4%
	Jumlah	100	100%

In table 4. that in this study dominated by customers with monthly electricity usage with electricity consumption of Rp. 600,000, - up to Rp. 1,000,000, - with 65 respondents or 65%. This shows that the majority of respondents are not only owned by Employees / Employees, this means that they are able to fulfill their needs in buying such as vouchers or electronics so there is no need to carry extra money to shop because all transaction methods use PLN Mobile.

*Table 5. Monthly Power Outages*

No	Pemadaman Listrik Perbulan	Frekuensi	Persentase
1	1-5 Kali	90	90%
2	5-10 Kali	7	7%
3	> 10 Kali	3	3%
	Jumlah	100	100%

In Table 5 this research is dominated by customers with power outages for 1-5 times per month as many as 90 people or 90%, then with power outages for 5-10 times per month as many as 7 people or 7%. Because in some areas it has been able to minimize blackouts due to good service in those areas.

*Table 4.6 Number of Complaints Through*

No	Jumlah Komplain Melalui Aplikasi	Frekuensi	Persentase
1	< 5 Kali	100	100%
2	6 – 10 Kali	0	0%
3	> 10 Kali	0	0%
Jumlah		100	100%

Table 6 shows that in this study the number of complaints through the application was dominated by making complaints < 5 times, then for 6-10 times and > 10 times with 0 frequency or 0%. This is because using the PLN Mobile application can save time, increase effectiveness when making complaints and allows users to make complaints and complaints more quickly and be able to increase acceptance of use.

### Data analysis technique

*Table 7. Multiple Linear Regression Test Coefficients<sup>a</sup>*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.121	1.681		3.641	.000
TOTALX1	.137	.022	.541	6.337	.000
TOTALX2	.042	.036	.100	1.174	.243

a. Dependent Variable: TOTALY

Source: Questionnaire data processed 2023, SPSS Version 26

Furthermore, the following is an explanation of the above equation:

- Constant(a) = 6.121 which is a constant value, meaning that the quality of electronic services and promotions is 6.121%.
- B1X1 = Value the regression coefficient of the Electronic Service Quality variable is 0.137 meaning that if the responses of respondents to the quality of electronic services are increased, the influence on customer satisfaction increases by 0.137%.
- B2X2 = Value the regression coefficient of the Promotion variable is 0.042 meaning that if the respondents' responses regarding promotions are increased, the influence on customer satisfaction increases by 0.042%;

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**Hypothesis Test Results**

**T Test (Partial)**

It is known that the tcount value of Electronic Service Quality is 6.337 greater than the ttable which is 1.66055 whereas the tcount value of promotions is 1.174 less than 1.66055. So it can be concluded that Electronic Service Quality (X1) is accepted as having a positive and significant effect and Promotion (X2) is rejected as having a positive but not significant effect.

**F Test (Simultaneous)**

*Table 8. Simultaneous Test Results (F-Test)*

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.083	2	6.042	20.379	.000 <sup>b</sup>
Residual	28.757	97	.296		
Total	40.840	99			

*Source: Questionnaire data processed in 2023*

Based on table 8 above, is known the Fcount value of this study is 20.379 > 3.09 compared to Ftable 2.48 so that it can be concluded that H1 is accepted then H0 is rejected.

**Determination Coefficient Test (R2)**

*Table 9. Test Results for the Coefficient of Determination (R2)*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.944 <sup>a</sup>	.796	.581	.54448

a. Predictors: (Constant), TOTALX2, TOTALX1

Based on the test results of the Coefficient of Determination (R2) in table 9 it can be explained that there are 79.6% that influence service quality and 20.4% are influenced by other variables.

**Discussion**

**H1: Electronic Service Quality (X1) in the PLN Mobile application has a positive and significant effect on customer satisfaction (Y) PLN ULP Sungguminasa in Gowa Regency.**

The effect of electronic service quality (X1) on customer satisfaction (Y) is 0.137. This number indicates that the effect of electronic service quality (X1) on customer satisfaction (Y) is positive. Based on the results of the t test or partial test in table 4.7, the tcount value of Electronic Service Quality is 6.337, which is

greater than the ttable, which is 1.66055. So it can be concluded that the Electronic Service Quality (X1) received has a positive and significant effect.

This is based on the perception that the majority answered strongly agree on the electronic service quality variable (X1). This is based on the perception that the majority of respondents answered strongly agree on the statement items given in the distribution of the questionnaire.

The results of this study are in line with research that has been conducted by Gloria Ribka Lengkey, Silvy L. Mandey, Djurwati Soepono (2022) with the research title "The Effects of Promotion and Electronic Service Quality on Customer Satisfaction Users of the PLN Mobile Application Customers of PT. PLN (Persero) Tomohon Customer Service Unit" where there is a significant and positive influence between the promotion variable (X1) on customer satisfaction (Y).

### **H2: Promotion (X2) on the PLN Mobile application has a positive and insignificant effect on customer satisfaction (Y) PLN ULP Sungguminasa.**

The effect of promotion (X2) on customer satisfaction (Y) is 0.042. This number indicates that the effect of promotion (X2) on customer satisfaction (Y) is positive and not significant. Based on the results of the t test or partial test in table 4.7, the tcount value is 1.174 which is smaller than the ttable which is 1.66055. So it can be concluded that promotion (X2) was rejected but had a positive but not significant effect.

This was due to rising electricity prices which resulted in some customers feeling burdened, so they replaced the electricity meter with a voucher meter so that customers' electricity usage was more controlled.

The results of this study are in line with research conducted by Fifin Anggraini, Anindhya Budiarti, (2020) with the research title "The Influence of Price, Promotion, and Service Quality on Customer Loyalty Mediated by Customer Satisfaction on Gojek Consumers" with the results showing that price has a significant and positive effect on customer satisfaction. Promotion has a significant and positive effect on customer satisfaction.

### **H3: Electronic Service Quality (X1) and Promotion (X2) in the PLN Mobile application have a positive and significant effect on customer satisfaction (Y) PLN ULP Sungguminasa.**

Based on table 4.8, it is known that the Fcount value of this study is 20.379 > 3.09 compared to Ftable 2.48 so that it can be concluded that H1 is accepted then H0 is rejected.

The results of this study are in line with research conducted by Hafid Usman, Kuwat Riyanto (2019) with the research title "The Influence of Service Quality, Promotion and Price on Purchasing Decisions at Lazada Online Stores in South

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Cakarang" with the results of research on electronic service quality and promotion simultaneously influencing positive and significant to customer satisfaction.

### CONCLUSION

1. Electronic Service Quality partially has a positive and significant effect on customer satisfaction in the PLN Mobile application in the Covid-19 Pandemic Era. This shows that if the level of Electronic Service Quality in the PLN Mobile application increases, it will increase customer satisfaction at PLN ULP Sungguminasa.

2. Promotion has partially had a positive but not significant effect on customer satisfaction in the PLN Mobile application in the Covid-19 Pandemic Era. This shows that if the Promotion level on the PLN Mobile application increases, it will increase PLN ULP Sungguminasa Customer Satisfaction.

3. Overall, the influence between Electronic Service Quality and Promotion has a positive and significant effect on customer satisfaction in the PLN Mobile application in the Covid-19 Pandemic Era. Because the PLN Mobile application itself has fulfilled several customer needs, namely making payment transactions and purchasing electricity or electricity voucher tokens as well as making complaints and suggestions.

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