
THE INFLUENCE OF E-SERVICE QUALITY AND PROMOTION ON CUSTOMER LOYALTY OF PLN MOBILE APPLICATION USERS

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ABSTRACT

This study aims to analyze the influence of e-service quality and promotion on customer loyalty among users of the PLN Mobile application at PT PLN (Persero) Sigli Customer Service Implementation Unit, Pidie Regency. The population of this study consisted of PLN Mobile users who had conducted at least three transactions in the last three months, with the total population estimated at around 100,000 customers. A sample of 100 respondents was selected for analysis. This research employed a quantitative approach using SPSS software for data processing and statistical analysis. The results indicate that e-service quality has a positive and significant effect on customer loyalty, as shown by the t-count value greater than the t-table ($5.548 > 1.660$) with a significance value of $0.026 < 0.05$. In addition, promotion also has a positive and significant influence on customer loyalty, with a t-count value of $5.539 > 1.660$ and a significance value of $0.000 < 0.05$. These findings suggest that improving e-service quality and implementing effective promotional strategies can enhance customer loyalty toward the PLN Mobile application.

Keywords: E-Service Quality, Promotion, Customer Loyalty, PLN Mobile, Digital Services.

INTRODUCTION

The rapid development of information and communication technology (ICT) over the past two decades has significantly transformed business activities, government administration, and public services. Digitalization has become an essential demand as people increasingly expect services that are fast, accurate, accessible, and secure. In response to these changes, PT PLN (Persero), as a public utility company responsible for providing electricity services in Indonesia, launched the PLN Mobile application as a strategic innovation to improve service quality and operational efficiency. Through this application, customers can conduct various transactions and access important information online, such as paying electricity bills, purchasing electricity tokens, applying for new installations, reporting power outages, and monitoring electricity consumption in real time. Despite its benefits, several users still experience problems related to the quality of digital services, such as slow system performance, login difficulties, limited access to certain features, and inadequate delivery of information. In addition, promotional strategies for the PLN Mobile application are considered not yet optimal, as many customers are still unaware of the programs and benefits offered through the application.

E-Service Quality

E-service quality refers to the quality of services delivered through digital platforms such as websites, mobile applications, and other electronic media. The rapid advancement of information and communication technology has transformed how companies interact with customers, shifting many services from traditional face-to-face interactions to online systems. According to Zeithaml, Bitner, and Gremler (2016), e-service quality is the extent to which a website or digital platform can facilitate efficient and effective shopping, purchasing, and service delivery processes.

Promotion

Promotion is a marketing communication activity aimed at informing, persuading, and reminding consumers about products or services offered by a company (Kotler & Keller, 2016). Promotional activities can take various forms, such as digital advertising through social media and applications, sales promotions like discounts and vouchers, publicity through events or media coverage, and direct marketing via email, SMS, or application notifications.

Customer Loyalty

Customer loyalty refers to a strong commitment from customers to continue purchasing or using a company’s products or services consistently, even when alternative options are available in the market. According to Kotler and Keller (2016), customer loyalty is a deep commitment to repurchase or re-subscribe to a preferred product or service in the future despite situational influences and competitors’ marketing efforts. Similarly, Griffin (2016) and Tjiptono (2019) explain that loyalty is reflected not only through repeat purchases but also through positive attitudes, trust, and emotional attachment toward a brand. Loyal customers typically demonstrate behaviors such as regularly making repeat purchases, resisting switching to competitors, and recommending the product or service to others.

EXPERIMENTAL

This study uses a quantitative research approach. According to Sugiyono (2016), quantitative research is a method based on the philosophy of positivism that is used to examine populations or samples, where data are collected using research instruments and analyzed statistically to test predetermined hypotheses. Similarly, Nazir (2016) explains that quantitative methods are used to measure social phenomena using numerical data as the main tool for analysis and drawing conclusions.

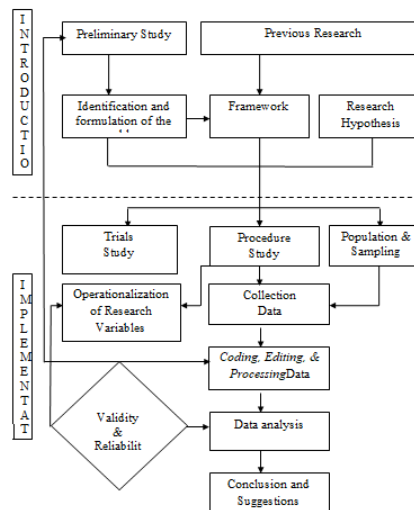


Figure 1. Research Design

Definition of Variables and Operations of Research Variables

- **Variable Definition**

According to Sugiyono (2016), research variables are everything determined by researchers to be studied so that information about the researched matter can be obtained and conclusions can be drawn. In accordance with the title

of the research to be discussed, namely the influence of product quality on customer satisfaction, there are two types of variables: independent variables (Independent Variable) and dependent variables (Dependent Variable).

- **Research Variable Operations**

According to Sugiyono (2016), the definition of a research variable is a research element that provides guidance or direction on how a variable can be measured. This research consists of two variables to be examined: the independent variable and the dependent variable.

Table 1. Operational Definition of Variables

Variables	Definition	Indicator	Measurement Scale
<i>E-Service Quality</i> (X1)	Customer perception of the quality of service provided by the PLN Mobile application.	(1) <i>Efficiency</i> (2) <i>Fulfillment</i> (3) <i>System Availability</i>	Likert 1–5
Promotion (X2)	Customer perceptions of electricity service products promoted through the PLN Mobile application.	(1) Consumer awareness (awareness) (2) Interest (3) Desire (4) Action	Likert 1–5
Customer Loyalty (Y)	The level of consumer loyalty to electricity products or services through the PLN Mobile application service.	(1) <i>Repurchase</i> (Repurchase Intention) (2) <i>Word of Mouth</i> (Positive Recommendation) (3) <i>Price Tolerance</i> (Tolerance towards prices)	Likert 1–5

Population and Sample

- **Population**

According to Sugiyono (2016), a population is a generalized area consisting of objects and subjects with certain quantities and characteristics determined by researchers to study and then draw conclusions. The population in this study is all customers who have made purchases or transactions on the PLN Mobile application, the number of which is unknown..

- **Sample**

According to Arikunto (2016) states that a sample is a portion or representative of the population being studied. If we only study a portion of the population, then the research is called sample research. In determining the research sample, a non-probability sampling approach procedure was used. Type *non-probability sampling* used in this study is *purposive sampling*. Because the population in this study is unknown, the determination of the number of samples uses the formula according to Supranto (2014), namely:

$$n = \frac{1}{4} \left[\frac{Z^2 \alpha / 2}{e} \right]^2$$

Information:

n = Sample size

$Z\alpha$ = The level of confidence of the sample required in the research $\alpha=5\%$ (with confidence determined to be 95%) is worth 1.96

e = Tolerable error rate (set at 10%)

Data collection technique

The data collection technique in this study used a questionnaire. A questionnaire is a data collection technique that involves providing respondents with a set of written questions or statements to answer (Sugiyono, 2020). Questionnaires are used to gather respondents' opinions. In this case, respondents simply answer by ticking the provided answer alternatives.

- **Data Measurement Scale**

This study used an ordinal Likert scale, where the original data were the results of respondents' answers to questions posed in the questionnaire. Responses to each instrument using the Likert scale ranged from very positive to very negative, consisting of the following words:

Table 2. Data Measurement Scale

Strongly Disagree	Don't agree	Neutral	Agree	Strongly agree
1	2	3	4	5

Source: Sugiyono, 2016.

Validity Test and Reliability Test

- **Validity Test**

A valid measuring instrument is able to accurately reveal data and provide a precise picture of the data. Accurate means that the measurement is able to provide a picture of the smallest differences between one subject and another. In

this case, several questions are used that can accurately reveal the variables being measured. In this case, several questions are used that can accurately reveal the variables being measured (Sugiyono, 2016).

- **Reliability Test**

Reliability is a measuring tool for measuring a questionnaire which is an indicator of a variable. A questionnaire is said to be reliable. *reliable* or reliable if a person's answers to questions are consistent or stable over time. Reliability testing was conducted using Cronbach Alpha. A Cronbach Alpha coefficient > 0.60 indicates the reliability of the instrument (If the research is repeated with different times and dimensions, it will produce the same conclusions) and if the Cronbach Alpha coefficient is < 0.60 it indicates that the instrument is less reliable (If these variables are re-examined with different times and dimensions, they will produce different conclusions).

Classical Assumption Test

- **Normality Test**

The normality test aims to test whether the independent variables and dependent variables in this model have a normal distribution or not. According to Ghozali (2016) There are two ways to detect whether residuals are normally distributed: graphical analysis and statistical analysis. The formula used in this normality test is the Kolmogorov-Smirnov formula, which defines data as normally distributed if the significance value is > 0.05 and data as non-normally distributed if the significance value is < 0.05 .

- **Heteroscedasticity Test**

The heteroscedasticity test is one of the tests in the classical assumption test. According to Ghozali (2016) The heteroscedasticity test aims to test the model for differences in variance between residuals from one observation to another. A good model is one that is homoscedastic or does not experience heteroscedasticity.

- **Multicollinearity Test**

In the classical assumption test, the multicollinearity test is a test to determine whether or not there is a relationship between independent variables. According to Priyatno (2016) This test aims to determine whether there is a correlation between the independent variables in the model. A good model should have no correlation between the independent variables.

Analysis Design and Hypothesis Testing

- **Data Analysis Methods**

The method used to support this research is quantitative. In quantitative research, data analysis occurs after data from all respondents or other data sources are collected. Data analysis techniques in quantitative research utilize statistics with the help of SPSS. The data analysis techniques used are descriptive statistical analysis and inferential statistical analysis, as explained below:

$$Y_1 = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

Information:

- Y = Customer Loyalty
- α = Constant
- $\beta_1, \beta_2,$ = Coefficient Regression
- X1 = *E-Service Quality*
- X2 = Promotion
- e = *Error term*

- **Correlation Coefficient Analysis**

Multiple correlation coefficient (R) analysis is used to explain the strength and direction of the relationship between independent variables and dependent variables. According to Sugiyono (2020) The correlation coefficient is used to provide an interpretation of the correlation coefficient which can be concluded in the provisions as in the table below:

Table 3. Guidelines for Interpretation of Correlation Coefficients

Likert Coefficient	Relationship Level
0.00-0.199	Very low
0.20-0.399	Low
0.40-0.599	Strong enough
0.60-0.799	Strong
0.80-1,000	Very strong

- **Analysis of the Coefficient of Determination (R²)**

Analysis of the coefficient of determination (R²) is used to determine the extent of the influence of the independent variable on the dependent variable. If the coefficient of determination is large, the greater the influence of the

independent variable on the dependent variable. To determine the results of the coefficient of determination, the R-square value can be seen. Where R-square can explain the percentage of influence of the independent variable (X) on the dependent variable (Y).

Hypothesis Testing

The analysis tool used by the researchers in this study was SPSS. SPSS was used to assist in processing cross-sectional research data. This allowed for the analysis of the influence of the independent variable (X) on the dependent variable (Y), both partially and simultaneously, using t-tests and F-tests.

- **Partial Influence Test (t-Test)**

The t-test is a type of statistical test used to determine the extent to which an independent variable can explain the dependent variable individually. The t-test is conducted with a 95% confidence level and a 5% error rate (α). The degrees of freedom used are $df1 = nk$. This significance level will be used to determine the validity of the hypothesis.

- **Simultaneous Effect Test (F Test)**

The F-test is a method of testing a null hypothesis involving more than one coefficient. It works by determining whether the fit of a regression equation is significant by restricting the equation to conform to the null hypothesis. The F-test is performed with a 95% confidence level and an analytical error rate (α) = 5%. The numerator $df1 = (k-1)$ and the denominator $df2 = (nk)$, k is the number of parameters (coefficients) of the linear regression model and n is the number of observations.

RESULTS AND DISCUSSION

Descriptive Statistics of Respondent Characteristics

- **Respondent Characteristics Based on Gender**

In this study, PT PLN (Persero) customers consisting of men and women can be explained as shown in Table 4.

Table 4. Gender

Gender	Frequency	Percent
Man	91	91%
Woman	9	9%
Total	100	100%

Source: Research Results Data Processed in SPSS 25 (2025)

Based on Table 4, it can be explained that in this study, 91 (91%) of PT PLN (Persero) customers were male. Furthermore, 9 (9%) were female. Therefore, it can be concluded that the majority of respondents were male, 91 (91%).

- **Respondent Characteristics Based on Age**

In this study, PT PLN (Persero) customers consisting of ages < 25 years, 26 - 35 years, 36 - 45 years, and > 46 years can be explained as shown in Table 4.2.

Table 5. Respondent Age

Respondent Age	Frequency	Percent
20 - 30 Years	20	20%
31 - 40 Years	33	33%
> 41 to 50 years old	38	38%
> 51 Years	9	9%
Total	100	100%

Source: Research Results Data Processed in SPSS 25 (2025)

Based on Table 5, it can be explained that in this study, the customers of PT PLN (Persero) Sigli Customer Service Implementation Unit aged 20-30 years were 20 respondents or 20%, those aged 31-40 years were 33 respondents or 33%, those aged 41-50 years were 38 respondents or 38%, those aged > 51 years were 9 respondents or 9%. So it can be concluded that most of the respondents aged 41-50 years were 38 respondents or 38%.

- **Respondent Characteristics Based on Marital Status**

In this study, PT PLN (Persero) customers consisting of married, unmarried and widows/widowers can be explained as shown in Table 6.

Table 6. Marital status

Marital status	Frequency	Percent
Not married yet	14	14%
Marry	85	85%
Widower/Widower	1	1%
Total	100	100%

Source: Research Results Data Processed in SPSS 25 (2025)

Based on Table 6, it can be seen that in this study, 14 respondents (14%) of PT PLN (Persero) Sigli Customer Service Unit customers who were unmarried, 85 respondents (85%) were married, and 1 respondent (1%) was widowed. Therefore, it can be concluded that the majority of respondents were married, 85 respondents (85%).

- **Respondent Characteristics Based on Last Education**

In this study, PT PLN (Persero) customers consisting of high school, Diploma 1-2, Diploma 3, Bachelor (S1), and Master (S2) can be explained as shown in Table 7.

Table 7. Last education

Last education	Frequency	Percent
High school/equivalent	52	52%
Diploma 1-2	4	4%
3-year diploma	11	11%
Bachelor degree)	31	31%
Masters (S2)	2	2%
Total	100	100%

Source: Research Results Data Processed in SPSS 25 (2025)

Based on Table 7 above, it can be explained that in this study, PT PLN (Persero) customers whose last education was high school/equivalent were 52 respondents or 52%, Diploma/DI-DII were 4 respondents or 4%, Diploma/D-III were 11 respondents or 11%, Bachelor/S-1 were 31 respondents or 31%, and those whose last education was Masters were 2 respondents or 2%. So it can be concluded that most of the respondents were those whose last education was Bachelor/S-1 were 31 respondents or 31%.

- **Respondent Characteristics Based on Length of Service**

In this study, PT PLN (Persero) customers consisting of those with a working period of 5 to 10 years, > 10 years, and < 5 years can be explained as shown in Table 8.

Table 8. Length of Service

Length of Service	Frequency	Percent
5 to 10 Years	33	33%
> 10 Years	46	46%
< 5 Years	21	21%
Total	100	100%

Source: Research Results Data Processed in SPSS 25 (2025)

Based on Table 8 above, it can be explained that in this study, PT PLN (Persero) customers with a working period of 5 to 10 years were 33 respondents or 33%, those with a working period of > 10 years were 46 respondents or 46%, and those with a working period of < 5 years were 21 respondents or 13%. So it can be concluded that most of the respondents were those with a working period of > 10 years, as many as 46 respondents or 46%.

Descriptive Statistics of Respondents' Answers

- **Frequency of Respondents' Answers to the E-Service Quality Variable**

To measure the service quality variable, four indicators are used. The description of the indicator data and e-service quality variables is as follows:

Table 9. Description of Indicators as Measuring Tools for E-Service Quality Variables

No	Statement Items	STS	TS	N	S	SS	Average
1	The PLN Mobile application is easy to use and makes it easier for me to access PLN services.	2	1	1	29	67	4.58
		2	1%	1%	29%	67%	
2	The PLN Mobile application is able to provide services according to my needs, such as checking bills, complaints, and payments.	2	-	1	35	62	4.55
		2%	-	1%	35%	62%	
3	The PLN Mobile application can be accessed properly without any interruptions or errors that often occur.	1	-	7	50	42	4.32
		1%	-	7%	50%	42%	
4	The PLN Mobile application maintains the security and confidentiality of my personal data well.	-	2	2	47	49	4.43
		-	2%	2%	47%	36%	
	Average						4.47

Source: Research Results Data Processed in SPSS 25 (2025)

Based on the data in Table 9, it can be explained that the average value (mean) of respondents' answers regarding e-service quality is 4.47, meaning that respondents' responses to e-service quality are in the very good category. This indicates that the data distribution is good.

- **Frequency of Respondents' Answers to Promotion Variables**

To measure promotional variables, five indicators are used. The description of the indicator data and promotional variables is as follows:

Table 10. Description of Indicators as a Measuring Tool for Promotion Variables

No	Statement Items	STS	TS	N	S	SS	Average
1	I learned about various PLN services and programs through promotions displayed on the PLN Mobile application.	1	-	1	44	54	4.50
		1%	-	1%	44%	54%	
2	The promotional information in the PLN Mobile application made me interested in learning more about PLN services.	1	-	3	46	50	4.44
		1%	-	3%	46%	50%	
3	Promotions on the PLN Mobile application have increased my desire to use the PLN services offered.	2	-	3	43	52	4.43
		2%	-	3%	43%	52%	
4	I was encouraged to use PLN services after seeing the promotions on the PLN Mobile application.	1	-	4	42	53	4.46
		1%	-	4%	42%	53%	
5	I am satisfied with the promotions conducted through the PLN Mobile application and will continue to use PLN services.	2	-	3	40	55	4.46
		2%	-	3%	40%	55%	
	Average						4.46

Source: Research Results Data Processed in SPSS 25 (2025)

Based on the data in Table 10, it can be explained that the average value (mean) of respondents' answers regarding promotions is 4.46, meaning that respondents' responses to promotions are in the very good category. This indicates that the data distribution is good.

- **Frequency of Respondents' Answers to Customer Loyalty Variables**

Table 11. Description of Indicators as Measuring Tools for Variables Customer Loyalty

No	Statement Items	STS	TS	N	S	SS	Average
1	I plan to continue using electricity services through the PLN Mobile application in the future.	1	-	2	44	53	4.48
		1%	-	2%	44%	53%	
2	I am willing to recommend the PLN Mobile application to others because the service provided is satisfactory.	2	-	2	37	59	4.51
		2%	-	2%	37%	59%	
3	I continue to use PLN services even though there are changes or increases in electricity rates.	1	-	6	43	50	4.41
		1%	-	6%	43%	50%	
4	I feel to keep using PLN services compared to other providers.	1	-	3	47	49	4.43
		1%	-	3%	47%	49%	
5	I am not interested in switching to any other electricity service or platform other than PLN Mobile.	1	-	7	43	49	4.39
		1%	-	7	43%	49%	
6	I feel committed and loyal to using the PLN Mobile application because it provides convenience and benefits.	1	1	3	43	52	4.44
		1%	1%	3%	43%	52%	
	Average						4.44

Source: Research Results Data Processed in SPSS 25 (2025)

Based on the data in Table 11, it can be explained that the average value (mean) of respondents' answers regarding customer loyalty is 4.44, meaning that respondents' responses to customer loyalty are in the very good category.

Validity and Reliability Test

Validity test results showed that all statement items had Pearson correlation values greater than 0.30, thus being declared valid. Reliability tests using Cronbach's Alpha showed that all variables had alpha values greater than 0.60, thus the research instrument was declared reliable.

- **Validity Test**

A valid measuring instrument is able to accurately reveal data and provide a precise picture of the data. In this case, several questions are used that can accurately reveal the variables being measured the measured variables. Each factor is considered valid if the Pearson Correlation >0.30 (Sugiyono, 2016). The results of the validity test of this research are presented as follows:

Table 12. Validity Test

Independent (X1 and X2) and Dependent (Y) Variable Question Indicators	Pearson Correlation	Minimal Correlation	Information
Variable (X1) E-Service Quality			
ESQ1	0.881	>0.30	Valid
ESQ2	0.921	>0.30	Valid
ESQ3	0.851	>0.30	Valid
ESQ4	0.875	>0.30	Valid
Variable (X2) Promotion			
P1	0.933	>0.30	Valid
P2	0.943	>0.30	Valid
P3	0.916	>0.30	Valid
P4	0.955	>0.30	Valid
P5	0.906	>0.30	Valid
Variable (Y) Customer Loyalty			
LP1	0.919	>0.30	Valid
LP2	0.845	>0.30	Valid
LP3	0.903	>0.30	Valid
LP4	0.951	>0.30	Valid
LP5	0.937	>0.30	Valid
LP6	0.913	>0.30	Valid

Source: Research Results Data Processed in SPSS 25 (2025)

From table 12 above, the overall Pearson correlation value of the e-variables *service quality*, *Promotion* and *customer loyalty* show Pearson Correlation results >0.30 . It can be concluded that the variable indicators in this study have passed the validity test.

- **Reliability Test**

The decision criteria for whether the questionnaire is reliable or not is stated if the Cronbach's Alpha value > 0.60 is reliable.

Table 13. Reliability Test

No	Variables	Number of Questions	Cronbach's Alpha	Cut Off	Note
1	<i>E-Service</i> (X1)	4	0.904	>0.60	Reliable
2	Promotion (X2)	5	0.959	>0.60	Reliable
3	Customer Loyalty (Y)	6	0.958	>0.60	Reliable

Source: Research Results Data Processed in SPSS 25 (2025)

Table 13 shows that the Cronbach's Alpha values for the independent and dependent variables are >0.60. Based on the data processed using SPSS, it can be concluded that all variables studied are reliable.

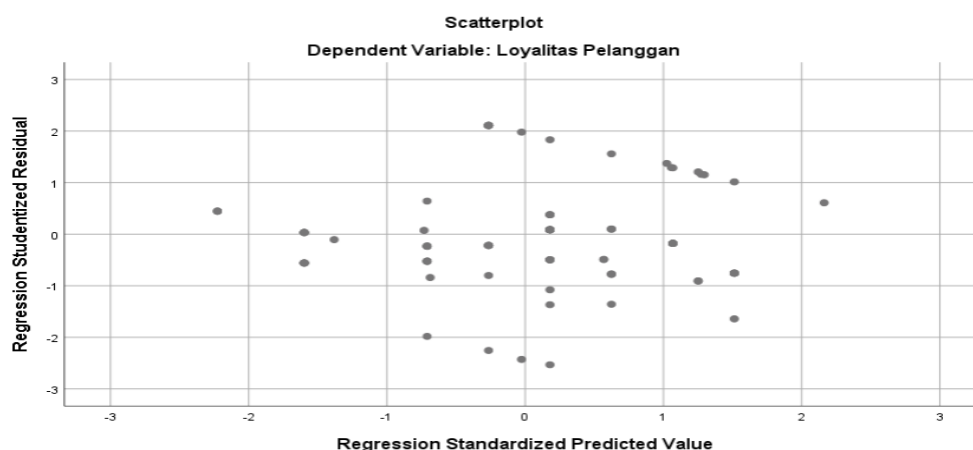
Classical Assumption Test

- **Normality Test**

A more reliable method is to use a normal probability plot, which compares the cumulative distribution with the normal distribution. A normal distribution will form a straight diagonal line, and the residual data will be compared to the diagonal line. If the residual data distribution is normal, then the line representing the actual data will follow the diagonal line (Ghozali, 2016).

- **Heteroscedasticity Test**

This study uses, among other things, independent variable predictions (ZPRED) and their residuals (SPRESID). If a certain pattern forms, heteroscedasticity occurs, but if the points in the image are spread out in all directions, heteroscedasticity does not occur. For more clarity, the following is a picture of the results of the heteroscedasticity test data processing.



Source: Research Results Data Processed in SPSS 25 (2024)

Figure 2. Test Heteroscedasticity

In figure 2. modelFrom the first structural analysis, it can be seen that the points are spread in various directions, both above and below the number 0 on the Y axis and do not form a particular pattern. Therefore, it can be concluded that there is no heteroscedasticity in the first structural regression model.

- **Multicollinearity Test**

A good regression model should have no correlation between independent variables. If independent variables are correlated with each other, then they are not orthogonal. According to Ghazali (2016), the multicollinearity test aims to determine if there is a correlation between independent variables in a regression model. This test is performed by examining the tolerance and variance inflation factors (VIF).

If the tolerance value is >0.10 or the variance inflation factor (VIF) value is <10 , it can be concluded that there is no multicollinearity between the independent variables. However, if the tolerance value is <0.10 or the variance inflation factor (VIF) value is >10 , it can be concluded that multicollinearity is present. The results of the multicollinearity test are explained as follows:

Table 14. Multicollinearity Test

Variables	Collinearity Statistics	
	Tolerance	VIF
<i>E-Service Quality (X1)</i>	0.203	4,934
Promotion (X2)	0.203	4,934

Source: Research Results Data Processed in SPSS 25 (2025)

Table 14 explains that the tolerance value of the two e-service quality variables is $0.203 > 0.10$. The promotion variable is $0.203 > 0.10$. Furthermore, the VIF value for the e-service quality variable is $4.934 < 10$. The promotion variable is $4.934 < 10$, the tolerance value is > 0.10 and the VIF is < 10 , so it can be concluded that there is no multicollinearity in this study.

Data Analysis Model

The data analysis used in this study was quantitative analysis using multiple linear regression equations. Quantitative analysis is used to analyze data obtained from questions that require statistical calculations, thus often referred to as statistical analysis. This study aimed to examine e-service quality and promotion on customer loyalty.

Table 15. Data Analysis Methods

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

(Constant)	1,265	1,070		1,183	0.240
<i>E-Service Quality</i> (X1)	0.722	0.130	.476	5,548	0,000
Promotion (X2)	0.577	0.101	.475	5,539	0,000

Source: Data processed using SPSS (2025)

Based on table 15 it can be seen that pThe multiple linear regression equation obtained is:

$$Y = 1.265 + 0.722X_1 + 0.577X_2$$

- **Correlation Coefficient Analysis and Determination Coefficient Analysis (R²)**

The greater the coefficient of determination, the greater the influence of the independent variables on the dependent variable. To determine the results of the coefficient of determination, we can look at the R-square value. Where R-square can explain the percentage of influence of the independent variable (X) on the dependent variable (Y).

Table 16. Correlation Coefficient and Determination

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.925a	.855	.852	1.44250

a.Predictors: (Constant),*E-Service Quality*,Promotion

b.Dependent Variable: Customer Loyalty

Based on table 16 above, the correlation coefficient (R) value of 0.925 indicates that there is a strong relationship between the independent variables and the dependent variable of 92.5%. The R² value is 0.855, indicating that the influence of the independent variables e-service quality and promotion has an influence on customer loyalty of PT PLN Customer Service Implementation Unit by 85%, while the remaining 15% is explained by other variables outside this study.

- **Partial Testing (t-Test)**

The t-test was conducted with a 95% confidence level and a 5% error rate (α). The degrees of freedom used were $df_1 = nk$. This significance level will be used to determine the validity of the hypothesis. The basis for decision-making in the t-test is as follows (Ghozali, 2016):

Table 17. Partial Hypothesis Testing

Model	thitung	table	Sig
<i>e-service quality</i>	5,548	1,660	.000
Promotion	5,539	1,660	.000

Source: Research Results Data Processed in SPSS 25 (2025)

Discussion of Research Results

This section will explain the results of the hypothesis testing, which was developed with the aim of finding answers to the hypotheses and linking them to theory and empirical evidence from previous research. Based on the analysis of the research data, the following conclusions can be drawn:

- **The Influence of E-Service Quality on Customer Loyalty**

The results of the study show that the variable *e-service quality* has a positive and significant effect on customer loyalty of PLN Mobile application users at PT PLN (Persero) Sigli Customer Service Implementation Unit. This is indicated by the calculated t value $>$ t table at the 5% level ($5.548 > 1.660$) and a significant value of $0.026 < 0.05$.

- **The Influence of Promotion on Customer Loyalty**

The results of the study show that the promotion variable has a positive and significant effect on customer loyalty of PLN Mobile application users at PT PLN (Persero) Sigli Customer Service Implementation Unit. This is indicated by the calculated t value $>$ t table at the 5% level ($5.539 > 1.660$) and a significant value of $0.000 < 0.05$.

- **The Effect of E-Service Quality and Promotion Simultaneously on Customer Loyalty**

The results of the simultaneous test (F test) show that e-service quality and promotion together have a significant effect on customer loyalty. Shown with value $F_{count} >$ F_{table} (286.993 with $df_1 = 2$ and $df_2 = 97$), and significance value (sig) = $0.000 < 0.05$

- **Managerial Implications of Research Results**

Based on the research results, there are several managerial implications that can be implemented by PT PLN (Persero), particularly the Sigli Customer Service Implementation Unit. First, management needs to prioritize improving the technical performance of the PLN Mobile application, including system stability and data security. Second, promotional strategies need to be designed more creatively and oriented towards building long-term loyalty, rather than simply increasing usage momentarily. Third, the integration of digital service quality and consistent promotional communications will strengthen PLN's image as a modern and trusted public service provider.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that e-service quality has a positive and significant effect on customer loyalty among PLN Mobile application users at PT PLN (Persero) Sigli Customer Service Implementation Unit. This is indicated by the t -count value being greater than the t -table value at the 5% significance level ($5.548 > 1.660$) with a significance value

of $0.026 < 0.05$. This finding shows that the better the e-service quality perceived by customers, the higher the level of customer loyalty. In addition, the promotion variable also has a positive and significant influence on customer loyalty, as indicated by the t-count value greater than the t-table ($5.539 > 1.660$) and a significance value of $0.000 < 0.05$. This result indicates that promotional activities are more dominant in increasing customer awareness and interest compared to the stages of desire and action. Furthermore, the results of the simultaneous test (F test) show that e-service quality and promotion together have a significant effect on customer loyalty, as indicated by the F-count value of 286.993 with a significance value of $0.000 < 0.05$. This means that both variables simultaneously contribute significantly to increasing customer loyalty toward the PLN Mobile application.

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