



# The Effect of Service Quality on Customer Satisfaction of Pt Pln (Persero) Paniki Customer Service Unit in the Pln Mobile Application

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**Abstract:** *Customers are assets that play an important role in determining the success of the company. Customers reflect the company's growth potential in the future, so efforts to create and retain customers are a top priority for the company. Customer satisfaction is a central concept in business and management discourse. Customer satisfaction is influenced by the perception of various qualities, both services and products. PT PLN (Persero) is an electric power sales company in Indonesia. The increase in demand for electricity has soared high and fast, especially the need for industry and is accompanied by an even higher level of public satisfaction as a result of the increased income of an advanced and modern society. Meeting customer needs which is an important goal for PT. PLN (Persero) Paniki Customer Service Unit in Manado. To meet customer satisfaction there needs to be an improvement in service quality which refers to customer satisfaction as the main goal in providing services. This study aims to determine the service quality of PT PLN (Persero) Paniki Customer Service Unit on the PLN Mobile Application on customer satisfaction provided. The analytical method used is validity, reliability, classical assumptions and multiple regression using the SPSS 22 application. The results show that simultaneously Physical Evidence, Reliability, Responsiveness, Assurance, Empathy have a positive and significant effect on Customer Satisfaction at PT PLN (Persero) Paniki Customer Service Unit. Partially each variable Physical Evidence, Reliability, Responsiveness, Assurance.*

**Keywords:** *Physical Evidence, Reliability, Responsiveness, Assurance, Empathy, Customer Satisfaction.*

## INTRODUCTION

### Background

In this era of globalization, businesses are required to improve the quality of the services they provide according to the professional standards of their various industries. Companies are encouraged to produce goods and services that can meet the needs and desires of consumers as a result of technological changes and the rapid flow of information. This allows consumers to feel satisfied with what they receive from the company, which in turn encourages companies to continue to develop new technologies and accelerate the flow of information. There are many different approaches that can be taken to meet customer needs and wants, and one such approach is



to give customers a positive impression or image of a company in terms of the products and services it offers.

Seeing these conditions, various efforts were made by BUMN to try to improve the situation by providing the most beneficial services for local residents. It is hoped that the community will have a sense of being respected, their rights will not be neglected, and in the end the community in its role as a user or customer for the services provided by the government-owned company will feel satisfied. This can be achieved by providing excellent service.

Customer service is an important element in efforts to increase customer satisfaction, therefore a company must provide excellent service to customers. In fulfilling customer needs which is an important goal for PT. PLN (Persero) at the Paniki Customer Service Unit in Manado in meeting the needs, desires and customer satisfaction depends on the quality of service provided by PT. PLN (Persero) to consumers.

Service quality is a form of consumer assessment of the level of service received and the level of service expected if the service received or perceived is as expected. There are 5 dimensions to measure service quality which consist of physical evidence, reliability, responsiveness, assurance, and empathy. This is the main goal in providing services. Therefore, improving the quality of service must be carried out continuously and continuously.

**Table 1. Number of PLN Mobile Application Users**

No	units	Number of Customers
1	ULP Paniki	10,399
2	ULP South Manado	21,321
3	ULP North Manado	13,522

*Source: PLN UP3 Manado customer data (2022)*

Table 1 above shows the number of customers who have used the PLN mobile application, namely PT PLN (Persero) Paniki Customer Service Unit with a total of 10,399 customers. ULP South Manado total of 21,321 customers, ULP in North Manado a total of 13,522 customers. The number of PLN customers and users of the PLN Mobile application has increased every month in line with the increase in population and the need for service facilities from PLN. The use of electricity has soared high and fast, and the standard level of public satisfaction has become higher as a result of the increasing income of modern society. Researchers are interested in conducting research at PT. PLN (Persero) Paniki Customer Service Unit because it has a very diverse area covering the mainland, namely the Mapanget sub-district and the islands, namely the Bunaken Archipelago sub-district and the islands of Mantehage, Siladen, Nain. Coupled with the characteristics of household customers from subsidized to residential areas with details of subsidized 450 VA – 900 VA household customers totaling 8,069 customers, non-subsidized 900 VA – 197,000 VA household customers totaling 34,392 customers. Based on the above background, the authors are interested in conducting research with the title: "The Influence of Service Quality on Customer Satisfaction of PT PLN (Persero) Paniki Customer Service Unit in the PLN Mobile Application".

### Research purposes

The objectives to be achieved in this study are to analyze:

1. To analyze Physical Evidence, Reliability, Responsiveness, Assurance, Empathy, effect on Satisfaction Customers at PT PLN (Persero) Paniki Customer Service Unit?
2. To analyze Physical Evidence effect on Satisfaction Customers at PT PLN (Persero) Paniki Customer Service Unit



3. To analyze Reliability effect on SatisfactionCustomers at PT PLN (Persero) Paniki Customer Service Unit
4. To analyze Responsiveness effect on SatisfactionCustomers at PT PLN (Persero) Paniki Customer Service Unit
5. To analyze guarantee effect on satisfactionCustomers at PT PLN (Persero) Paniki Customer Service Unit
6. To analyze Empathy effect on SatisfactionCustomers at PT PLN (Persero) Paniki Customer Service Unit

## LITERATURE REVIEW

### Marketing

According to Tjiptono & Diana (2016) states that "Marketing has various goals, including realizing the welfare of companies and customers, finding solutions to problems faced and obtaining benefits that can satisfy customer needs and wants." Then followed by his statement that "marketing is related to an effort to satisfy customer needs."

### Service Marketing

According to Kotler and Keller (2016: 184), A service is any act or performance *one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product.* According to Tjiptono (2019: 29), services can be defined as any actions or actions that can be offered by a party to another party which are basically intangible (i.e. not physically tangible) and do not result in the ownership of something. However, service products can be related to physical products or not. This means that there are pure service products (such as child care, psychological consulting, and management consulting) there are also services that require physical products as the main requirement (eg ships for sea transportation, aircraft in flight services, and food in restaurants). From the definition above, it can be concluded that service is an action or activity that includes all activities whose result is the performance received by the customer or consumer.

### Consumer behavior

ACCORDING TO WIBOWO AND MOH FAUSI (2017) CONSUMER BEHAVIOR IS AN ACTION, ACTIVITY, AND PSYCHOLOGICAL PROCESS OF A CUSTOMER WHEN THEY WANT TO PURCHASE, USE, AND SPEND THE PRODUCT OR SERVICE. ACCORDING TO TJIPTONO & DIANA (2016) CONSUMER BEHAVIOR IS THE SUCCESS OF A BUSINESS THAT CAN BE OBTAINED WHEN BUSINESS PEOPLE CAN UNDERSTAND CONSUMER BEHAVIOR ALONG WITH THEIR WANTS AND NEEDS.

### SERVICE QUALITY

According to Abdullah and Tantri (2019) service quality is the overall characteristics and characteristics of an item or service that affects its ability to satisfy stated and implied needs. Quality of service provided by the company to be able to meet the expectations of its consumers.

According to Kotler (2019), there are 5 indicators to measure service quality, namely:

1. *Tangibles* or physical evidence, namely the ability of a company to demonstrate its existence to external parties. The appearance and capabilities of the company's physical facilities and infrastructure and the condition of the surrounding environment are clear evidence of the services provided by the service provider, this includes physical facilities (buildings, warehouses, physical facilities and others), technology (equipment and equipment used) and the appearance of its employees .



2. *reliability* or reliability, namely the company's ability to provide services as promised accurately and reliably. Must meet customer expectations, meaning timely performance, faultless service, sympathetic attitude and with high accuracy.
3. *Responsiveness* or responsiveness, namely a willingness to help and provide fast (responsive) and appropriate services to customers. by conveying clear information. Letting customers wait for no apparent reason causes negative service quality in service quality.
4. *assurance* or assurance of certainty, namely knowledge, courtesy of compensation and the ability of company employees to foster customer trust in the company. Consists of the components of communication, credibility, security, competence and courtesy.
5. *Empathy* namely giving attention, sincere and individual or personal to customers by trying to understand customer desires, the company is expected to have an understanding and knowledge about customers, understand customer needs and have a comfortable operating time for customers.

### Customer satisfaction

According to Oliver (2019) satisfaction is the level of a person's feelings after comparing the performance/results he feels with expectations, so the level of satisfaction is a function of the difference between perceived performance and expectations, if expectations are then customers will be disappointed. If performance matches expectations, the customer will be very satisfied, whereas if performance exceeds expectations, the customer will be very satisfied. Consumer expectations can be shaped by past experiences, comments from relatives, and marketer information and up to date.

According to Kotler (2017) consumer satisfaction is a person's feelings of pleasure or disappointment that arise after comparing their perceptions/impressions of (performance or results) of a product and their expectations. According to Ratnasari (2017) consumer satisfaction is the level of feeling where a person states the results of a comparison of the product/service performance received and expected.

Meanwhile, according to Tjiptono (2017) consumer satisfaction is an after-purchase evaluation, in which the perception of the performance of the selected product/service alternative meets or exceeds expectations before purchase. According to Daryanto and Setyobudi (2019), stating consumer satisfaction is an emotional assessment of consumers after consumers use products where the expectations and needs of consumers who use them are met.

### Previous Research

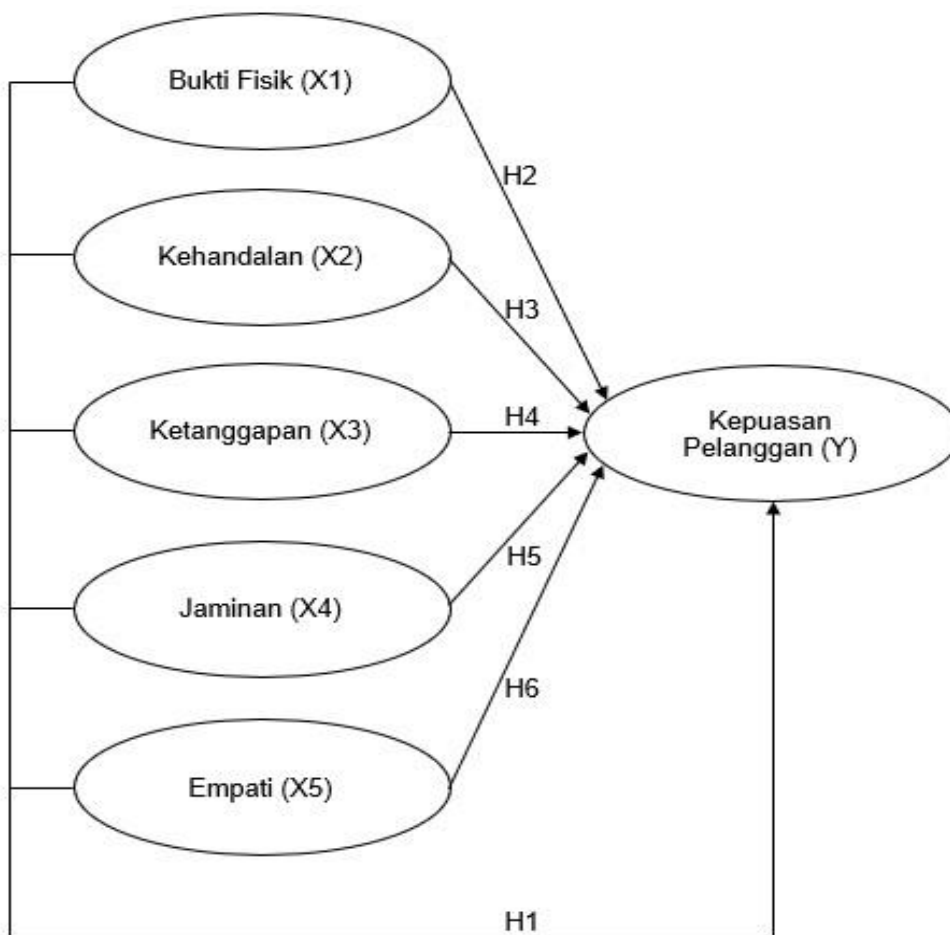
Mulyadi (2020) in this study entitled Dimensions of Service Quality and Customer Satisfaction of PLN ULP Bireuen. The results showed that only the Tangibility (X1), Assurance (X4) and Empathy (X5) variables had a positive and significant effect. on customer satisfaction PT. PLN ULP Bireuen. Meanwhile, Reliability (X2) and Responsiveness (X3) have a positive and insignificant effect on customer satisfaction at PT. PLN ULP Bireuen.

Purwanto (2020) in this study entitled Analysis of Service Effect on Service Customer Satisfaction in PT. PLN Persero Sengkang District. The results showed that the statistical test was using the F test method, where the significant level obtained was smaller, which was 0.000 from the significant standard, which was 5% or 0.05. because the value of Fcount is greater than Ftable. So it can be concluded that Service Quality simultaneously has a significant influence on customer satisfaction. Of the five variables that influence customer satisfaction, PT. PLN (Persero) Rayon Sengkang, the most dominant variable is the Assurance variable based on the results of the t test. Assurance variable has a coefficient value of 0.



Rasyid, Galela (2020) in this study entitled Analysis of the Quality of Electricity Service on Customer Satisfaction of PT PLN (Persero) Procurement Service Unit (ULP) Namlea. The results of the regression equation research namely reliability, responsiveness, assurance, empathy and tangible have a positive effect on customer satisfaction, meaning that if the independent variable increases, the dependent variable also increases, and if the independent variable decreases, the dependent variable also decreases. From the results of the regression coefficients obtained, it shows that the reliability variable is the biggest factor influencing customer satisfaction, then empathy, tangible, responsiveness, while assurance is the lowest factor affecting customer satisfaction. Of the five dimensions that have the greatest significance value are the dimensions of Reliability, Responsiveness,

**Research Model**



**Figure 1. Research Model**

Source: Theoretical Studies and Empirical Studies (2022)

**hypothesis**

H1: It is suspected that there is a significant effect of Physical Evidence (X1), Reliability (X2), Responsiveness (X3), Assurance (X4), Empathy (X5) together towards Customer Satisfaction (Y) at PT PLN (Persero) Paniki Customer Service Unit.

H2: It is suspected that there is a significant effect of physical evidence (X1) on satisfaction Customer (Y) at PT PLN (Persero) Paniki Customer Service Unit.

H3: It is suspected that there is a significant effect of reliability (X2) on customer satisfaction (Y) at PT PLN (Persero) Paniki Customer Service Unit.





H4: It is suspected that there is a significant effect of Responsiveness (X3) on Customer Satisfaction (Y) at PT PLN (Persero) Paniki Customer Service Unit

H5: It is suspected that there is a significant effect of assurance (X4) on satisfaction Customer (Y) at PT PLN (Persero) Paniki Customer Service Unit.

H6: It is suspected that there is a significant effect of Empathy (X5) on Customer Satisfaction (Y) at PT PLN (Persero) Paniki Customer Service Unit.

## RESEARCH METHODS

### Research methods

The research method used in this research is a quantitative method. Quantitative research according to Sugiyono (2017) is a research method based on the philosophy of positivism, used to examine certain populations or samples, collecting data using research instruments, analyzing data is quantitative/statistical, with the aim of testing established hypotheses.

In this study, there are two variables used, namely the independent variable (independent variable) and the dependent variable (the dependent variable). According to Sugiyono (2013: 39) independent variables are variables that influence or cause changes or the emergence of the dependent variable. The independent variables in this study are Physical Evidence (X1), Reliability (X2), Responsiveness (X3), Assurance (X4), Empathy (X5).

### LOCATION AND RESEARCH OBJECT

This research takes a limited case study in the work area of PLN Paniki. The reason for choosing this research location is because PT. PLN (Persero) ULP Paniki has a very diverse territory covering land and islands. Coupled with the characteristics of household customers from subsidized housing to luxury housing. Based on these considerations, the researchers were interested in conducting this research at that location.

### METHOD OF COLLECTING DATA

The method of collecting data in this study was using a questionnaire, which is a data collection technique by giving a set of questions or written questions to the respondent to answer. This research was conducted by distributing questionnaires to customers of PT. PLN (Persero) Paniki Customer Service Unit rates for households that have ever made a complaint, which will be measured using a Likert scale. This study uses descriptive analysis techniques and multiple linear regression analysis.

### Population and Research Sample

According to Siyoto et al (2018), a sample is part of the number and characteristics possessed by the population, or a small part of the population members taken according to certain procedures so that they can represent the population. Sampling was carried out to facilitate research with a large population studied. Research cannot examine all populations for several reasons, such as limited funds, time and manpower. To determine the number of samples, this study uses the Slovin formula.

Slovin's formula notation is  $n = N / (1 + Ne^2)$ . This study raised the degree of confidence to 90%, or an error rate of 10%, so that from a total population of 99 customers, the number of samples needed based on the Slovin formula was 99 respondents.

### Research Instrument Scale

The measurement scale used in this study is the Likert scale. Sugiyono (2017) explains that the Likert scale is used to measure every attitude, opinion, and perception of a person or group of



people towards social phenomena. This research has been specifically defined, hereinafter referred to as the research variable. With a Likert scale, the variables to be measured are translated into variable indicators which are then used as total points in compiling instrument items which can be in the form of questions or statements. For the purposes of quantitative analysis, the answers can be scored as follows: Strongly Disagree (STS); given a score of 1; Disagree (TS); given a score of 2; Undecided (RG); given a score of 3; Agree (ST); given a score of 4; Strongly Agree (SS); given a score of 5.

### **Data analysis method**

Data analysis in qualitative research is a process of systematically tracking and arranging interview transcripts, field notes, and other materials collected to increase understanding of these materials so that their findings can be interpreted by others (Sugiyono, 2017).

### **Validity test**

According to Sugiyono (2017) it shows the degree of accuracy between the data that actually occurs on the object and the data collected by the researcher. This validity test is carried out to measure whether the data that has been obtained after the research is valid data or not, using the measuring instrument used (questionnaire).

### **Reliability Test**

According to Sugiyono (2017) states that the reliability test is the extent to which measurement results using the same object will produce the same data. This reliability test was carried out on 100 respondents, using statements that have been declared valid in the validity test and their reliability will be determined. Using the SPSS 22 program. A variable is said to be good if it has a Cronbach's Alpha value of  $> 0.6$  (Priyatno, 2013: 30).

### **Normality test**

The normality test was carried out to see whether the independent variable and dependent variable in the regression model have normally distributed data or not. According to Sugiono (2017), the Normality Test is a test to see whether the residuals obtained have a normal distribution. This statistical test uses the Kolmogorov-Smirnov test. If the Significant value  $> 0.05$ , then it is said that the residuals are normally distributed, and vice versa.

### **Multicollinearity Test**

To find whether or not multicollinearity exists in the regression model, it can be seen from the tolerance value and the variance inflation factor (VIF) value. The tolerance value measures the variability of the selected independent variables which cannot be explained by other independent variables. So a low tolerance value is the same as a high VIF value, because  $VIF = 1/\text{tolerance}$ , and indicates high collinearity. The cut off value used is for a tolerance value of 0.10 or a VIF value above 10.

### **Homoscedasticity Test**

Homoscedasticity occurs when the probability distribution remains the same in all observations  $x$ , and the variance of each residual is the same for all values of the explanatory variable.

### **Multiple Linear Regression Analysis**

Multiple linear regressions is a regression model that involves more than one independent variable. Multiple linear regression analysis was carried out to find out the direction and how much influence the independent variables have on the dependent variable (Ghozali, 2018).



**Coefficient of Determination (R<sup>2</sup>)**

Testing the coefficient of determination was carried out with the intention of measuring the ability of the model to explain how the effect of the independent variables jointly (simultaneously) affects the dependent variable which can be indicated by the adjusted R-Squared value (Ghozali, 2016).

**Simultaneous Significance Test (F Test)**

The F test aims to find out whether the independent variables simultaneously (simultaneously) affect the dependent variable. The F test was carried out to see the effect of all the independent variables together on the dependent variable. The level used is 0.5 or 5%, if the significant value of  $F < 0.05$  it means that the independent variables simultaneously affect the dependent variable or vice versa (Ghozali, 2016).

**Variable Operational Definitions**

1. Tangibles or physical evidence, namely the ability of PT PLN (Persero) to demonstrate its existence to external parties. Indicators: Facilities, Technology, Appearance.
2. Reliability, namely the ability of PT PLN (Persero) to provide services as promised accurately and reliably. Indicators: timely performance, service without health, sympathetic attitude, high accuracy.
3. Responsiveness, namely the willingness of PT PLN (Persero) to help and provide fast (responsive) and appropriate services to customers. With those who convey clear information. Indicators: delivery of information, fast service.
4. Assurance or assurance of certainty, namely knowledge, courtesy of compensation and the ability of employees of PT PLN (Persero) to foster customer trust in the company. Indicators: communication, credibility, security, competence, courtesy.
5. Empathy is giving PT PLN (Persero) sincere attention to customers by trying to understand customer desires, where a company is expected to have an understanding and knowledge about customers. Indicators: understanding customer needs customer convenience.
6. Customer satisfaction is a comparison between expectations and performance/results perceived by PT PLN (Persero) customers. Indicators: overall customer satisfaction, dimensions of customer satisfaction, confirmation of expectations, repurchase intention, health to recommend.

**RESEARCH RESULTS AND DISCUSSION**

Research result

Validity Test Results

The results of testing the validity of the research instrument using the Statistical Product Service Solution (SPSS) for windows are summarized in table 2 below:

**Table 2. Validity Test Results**

Variable	Declaration Items	rcount	rtable	Information
Physical Evidence (X1)	X1.1	0.919	0.2	Valid
	X1.2	0.939	0.2	Valid
	X1.3	0.921	0.2	Valid
Reliability (X2)	X2.1	0.783	0.2	Valid
	X2.2	0.796	0.2	Valid
	X2.3	0.728	0.2	Valid
	X2.4	0.712	0.2	Valid
responsiveness	X3.1	0.951	0.2	Valid





(X3)	X3.2	0.950	0.2	Valid
Guarantee (X4)	X4.1	0.842	0.2	Valid
	X4.2	0.816	0.2	Valid
	X4.3	0.773	0.2	Valid
	X4.4	0.643	0.2	Valid
	X4.5	0.608	0.2	Valid
Empathy (X5)	X5.1	0.916	0.2	Valid
	X5.2	0.938	0.2	Valid
Customer satisfaction (Y)	Y1	0.862	0.2	Valid
	Y2	0.926	0.2	Valid
	Y3	0.928	0.2	Valid
	Y4	0.907	0.2	Valid
	Y5	0.938	0.2	Valid

Source: Data Processing (2022)

Based on table 2, the results of the validity test of the questionnaire on 99 respondents are explained as follows:

1. Physical Evidence variable (X1) from 3 statement items (X1.1 – X1.3) obtained the lowest correlation value on item X1.1 = 0.919 with a significance value = 0.000.
2. The Reliability variable (X2) from the 4 statement items (X2.1 – X2.4) obtained the lowest correlation value on item X2.4 = 0.712 with a significance value = 0.000.
3. Responsiveness variable (X3) of the 2 statement items (X3.1 – X3.2) obtained the lowest correlation value on item X3.2 = 0.712 with a significance value = 0.000.
4. Assurance variable (X4) of the 5 statement items (X4.1 – X4.5) obtained the lowest correlation value on item X4.5 = 0.605 with a significance value = 0.000.
5. The Empathy variable (X5) from 2 statement items (X5.1 – X5.2) obtained the lowest correlation value on item X5.1 = 0.916 with a significance value = 0.000.
6. Customer Satisfaction Variable (Y) of the 5 statement items (Y.1 – Y.5) obtained the lowest correlation value on item Y1 = 0.862 with a significance value = 0.000.

Table 2 above shows that all statements are said to be valid because the probability value (sig) of all statements is less than 0.05 (alpha) and all the coefficient values of r count (pearson correlation) of all statements are greater than r table 0.2.

**Reliability Test Results**

The results of the instrument reliability test used in this study can be seen in table 3 below.

**Table 3. Reliability Test Results**

No	Variable	Cronbach's Alpha	rtable	Reliability
1	Physical Evidence (X1)	0.915	0.204	Reliable
2	Reliability (X2)	0.747	0.204	Reliable
3	Responsiveness(X3)	0.893	0.204	Reliable
4	Guarantee (X4)	0.761	0.204	Reliable
5	Empathy (X5)	0.832	0.204	Reliable
6	Customer Satisfaction (Y)	0.948	0.204	Reliable

Source: Data Processing (2022)



The results of this study indicate that the Cronbach Alpha value in table 3 above is above the r table of 0.2 so it can be concluded that the reliability of the research variables is reliable.

**Normality Test Results**

The normality test, which is based on the Kolmogorov Smirnov (KS) nonparametric statistical test, can be seen in table 4 below:

**Table 4. Normality Test Results withKolmogorov Smirnov (KS)**

		Unstandardized Residuals
N		100
Normal Parameters, b	Means	.0000000
Cases >= Test Value	std. Deviation	2.26014114
Most Extreme Differences	absolute	081
	Positive	081
	Negative	-.065
Test Statistics		081
asympt. Sig. (2-tailed)		.099c,d

Source: Data Processing (2022)

Based on table 4 above, it shows that the normality test results withKolmogorov Smirnov (KS), the Asymp value is obtained. Sig. (2-tailed) of 0.099 is greater than 0.05 ( $0.099 > 0.05$ ), it can be concluded that all variables in the regression model used in this study are normally distributed.

**Multicollinearity Test Results**

The multicollinearity test can be seen from the Variance Inflation Factor (VIF) values for the independent variables of physical evidence, reliability, responsiveness, assurance, and empathy can be seen in table 5 below:

**Table 5. Collinearity Model**

Model	Collinearity Statistics	
	tolerance	VIF
(Constant)		
Physical Evidence	.785	1,274
Reliability	.760	1,317
responsiveness	.447	2,235
Guarantee	.401	2,492
Empathy	.529	1890

Source: Data Processing, 2022

Table 5 shows that there are no symptoms of multicollinearity if the VIF value  $< 10$ . Because the VIF values of all variables are less than 10, there are no symptoms of multicollinearity in all independent variables. It can be concluded that there are no multicollinearity symptoms in the model.

**F-Test Results Simultaneously**

The results of the simultaneous F-test analysis can be shown in table 6 below:

**Table 6. F Test Results**

Model	sum of squares	Df	MeanSquare	F	Sig.
1 Regression	1180724	5	236,145	43,893	0.000b
residual	505,716	94	5,380		
Total	1686,440	99			

Source: Data Processing, 2022

The results of the analysis obtained Simultaneous Test (F test) with a significant level of p-value =  $0.000 < 0.05$ , then  $H_a$  is accepted and  $H_0$  is rejected. This means that Hypothesis 1 (H1) which states that physical evidence, reliability, responsiveness, assurance, and empathy simultaneously have a significant effect on customer satisfaction can be accepted or proven.

### t Test Results (Partial)

The t (partial) test was carried out to test the significance of the regression coefficients of the independent variables, which can be seen in table 7 below:

**Table7.Test Results t**

Model	Unstandardized Coefficients		standardized Coefficients	t	Sig.
	B	std. Error	Betas		
1. (Constant)	-7,708	2,247		-3,430	001
Physical Evidence	.558	.130	.288	4,514	.000
Reliability	.227	.111	.132	2039	044
responsiveness	.500	.200	.211	2,493	014
Guarantee	.451	.138	.291	3,269	002
Empathy	.430	.176	.190	2,448	.016

Source:Processed Data, 2022

The results of the t-test show that physical evidence (X1) has a significance level of  $0.000 < 0.05$ , so  $H_a$  is accepted and  $H_0$  is rejected. This means that the hypothesis (H2) which states that physical evidence partially has a positive and significant effect on customer satisfaction can be accepted or proven.

The results of the t-test show that reliability (X2) has a significance level of  $0.044 < 0.05$ , so  $H_a$  is accepted and  $H_0$  is rejected. This means that the hypothesis (H3) which states that reliability partially has a positive and significant effect on customer satisfaction can be accepted or proven.

The results of the t-test show that responsiveness (X3) has a significance level of  $0.014 < 0.05$ , so  $H_a$  is accepted and  $H_0$  is rejected. This means that the hypothesis (H4) which states that responsiveness partially has a positive and significant effect on customer satisfaction can be accepted or proven.

The results of the t-test show that guarantee (X4) has a significance level of  $0.002 < 0.05$ , so  $H_a$  is accepted and  $H_0$  is rejected. This means that the hypothesis (H5) which states that assurance partially has a positive and significant effect on customer satisfaction can be accepted or proven.

The results of the t-test show that empathy (X5) has a significance level of  $0.016 < 0.05$ , so  $H_a$  is accepted and  $H_0$  is rejected. This means that the hypothesis (H6) which states that empathy partially has a positive and significant effect on customer satisfaction can be accepted or proven.



Based on table 7 above, it shows that the physical evidence variable contributes 55.8% to customer satisfaction, the reliability variable contributes 22.7% to customer satisfaction, the responsiveness variable contributes 50% to customer satisfaction, the guarantee variable contributes 45.1% to customer satisfaction, and empathy variables contribute 43% to customer satisfaction. Of the five variables, it can be concluded that the physical evidence variable has the greatest contribution to customer satisfaction compared to other variables, namely 58.8%. While the reliability variable gives the smallest contribution to customer satisfaction, namely 22.7%.

**Correlation Coefficient (R) and Coefficient of Determination (R2)**

The value of the correlation coefficient and the coefficient of determination in this research model can be seen in the model summary in table 8 below:

**Table 8. Correlation Coefficient (R) and Coefficient of Determination (R2) Summary models**

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	.837a	.700	.684	2.31947

Source: Data processing, 2022

In the summary model, it can be seen that the correlation coefficient (R) produced in model 1 is 0.837. This shows that physical evidence, reliability, responsiveness, assurance, and empathy simultaneously have a strong relationship. The value of the coefficient of determination (R2) generated in model 1 is 0.700. This shows that the contribution of the independent variables, namely physical evidence (X1), reliability (X2), responsiveness (X3), assurance (X4), and empathy (X5) to the dependent variable (customer satisfaction) is 70% and the remaining 30% influenced by other variables, which were not examined in this study.

**Discussion**

**The Effect of Physical Evidence, Reliability, Responsiveness, Assurance, and Empathy on Customer Satisfaction**

Based on the results of SPSS Version 22 data processing, it shows that physical evidence, reliability, responsiveness, assurance, and empathy simultaneously affect customer satisfaction. This is meaningful physical evidence, reliability, responsiveness, assurance, and empathy for PT. PLN (Persero) Customer Service Unit Paniki through the PLN mobile application has gone well so that it gives an impression to customers and gives a good image to both customers. The results of this study are supported by research from Setiawan, Qomariah, and Hemawan (2019), which found that physical evidence, reliability, responsiveness, assurance, and empathy simultaneously affect customer satisfaction. The results of research from Prihandoyo (2019), found that physical evidence, reliability, responsiveness, assurance, and empathy simultaneously affect customer satisfaction.

**Effect of Physical Evidence on Customer Satisfaction**

Based on the data obtained from the respondents' answers to the questionnaire, overall customers at PT. PLN (Persero) Customer Service Unit Paniki has a good perception or response regarding physical evidence. The results showed that physical evidence had a positive and significant effect on customer satisfaction. This can be interpreted that the physical evidence in the form of the appearance of facilities in the PLN mobile application is attractive, easy to use and in accordance with expectations in terms of providing good facilities to customers and supported by existing officers in carrying out basic tasks and functions. The results of this study are in line with research from Setiawan, Qomariah, and Hemawan (2019), which found that physical evidence has a positive and significant effect on customer satisfaction, this indicates that the better the quality of service in terms of physical evidence (tangible), the higher the level of consumer satisfaction.



### **The Effect of Reliability on Customer Satisfaction**

Based on the results of the regression coefficient test that has been carried out, it shows that the reliability variable has a positive and significant effect on customer satisfaction. This means reliability at PT. PLN (Persero) Customer Service Unit Paniki in providing services to customers is good and satisfying for customers, namely PLN has provided fast and timely service according to minimum service standards, including; the delivery of services in the PLN mobile application is in accordance with customer needs and there is an appropriate and timely response through the PLN mobile application. Apart from that, the service in the PLN mobile application is precise without error, attractive and frequently used by customers. PT. PLN (Persero) Customer Service Unit Paniki has tried to expedite the resolution of the complaint. Providing services in accordance with what has been promised is the most important part of the entire service process. The results of this study are supported by research conducted by Tiza and Susanti (2019), finding that reliability has a positive and significant effect on customer satisfaction.

### **The Effect of Responsiveness on Customer Satisfaction**

Based on the results of the regression coefficient test that has been done shows that the responsiveness variable has a positive and significant effect on customer satisfaction. This means that the response of PT. PLN (Persero) Customer Service Unit Paniki is working fine. This means, with the PLN mobile application, service becomes faster and makes it easier to convey PLN product information. Responsiveness influences customer satisfaction as perceived by customers, including the waiting time dimension to obtain service. The results of this study are in line with research from Mulyapradana, Anjarini, and Hartono (2020), who found that responsiveness has a positive and significant effect on customer satisfaction.

### **Effect of Guarantee on Customer Satisfaction**

Based on the results of hypothesis testing that has been done, it shows that the guarantee variable has a positive and significant effect on customer satisfaction. This means that PT. PLN (Persero) Customer Service Unit Paniki has made a good contribution and guarantees customer data security through the PLN mobile application. The results of this study are supported by Prihandoyo's research (2019), which found that guarantees have a positive effect on customer satisfaction.

### **The Effect of Empathy on Customer Satisfaction**

Based on the results of hypothesis testing that has been done, it shows that the empathy variable has a positive and significant effect on customer satisfaction. This means that PT. PLN (Persero) Customer Service Unit Paniki through the PLN mobile application has provided empathy to customers well, including; With the PLN mobile application, you really understand customer needs and the features in the PLN mobile application have provided convenience to customers. The results of this study are supported by research conducted by Setiawan, Qomariah, and Hermawan (2019), found that empathy has a significant effect on customer satisfaction.

## **CLOSING**

### **Conclusion**

- 1 Physical Evidence, Reliability, Responsiveness, Assurance, Empathy have a positive and significant effect on Satisfaction Customers at PT PLN (Persero) Paniki Customer Service Unit.
- 2 Physical Evidence has a positive and significant effect on Satisfaction Customers at PT PLN (Persero) Paniki Customer Service Unit.
- 3 Reliability has a positive and significant effect on satisfaction Customers at PT PLN (Persero)





Paniki Customer Service Unit.

- 4 Responsiveness has a positive and significant effect on satisfactionCustomers at PT PLN (Persero) Paniki Customer Service Unit.
- 5 Guarantee has a positive and significant effect on satisfactionCustomers at PT PLN (Persero) Paniki Customer Service Unit.
- 6 Empathy has a positive and significant effect on satisfactionCustomers at PT PLN (Persero) Paniki Customer Service Unit.

### Suggestion

1. For PT. PLN (Persero)Customer Service UnitPaniki must be able to maintain and even improvePhysical Evidence, Reliability, Responsiveness, Assurance, Empathy for these factors are significant.
2. For future researchers, it is hoped that they can examine other variables outside the variables that have been studied in this study in order to obtain varied results that can affect customer satisfaction, especially at PT PLN (Persero).

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