INTERNATIONAL JOURNAL OF SOCIAL HEALTH
https://ijsh.ph/index.php/rp
Volume 2 Number 3 March 2023 E-ISSN: 2984-7079

ANALYSIS OF FACTORS AFFECTING CUSTOMER SATISFACTION ON PLN MOBILE USERS AT PLN TANJUNGPANDAN CUSTOMER SERVICE UNIT

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KEYWORDS

customer satisfaction, customer service, multiple linear regression, PLN mobile application.

ABSTRACT

The PLN Mobile application is an application that can be used by smartphone devices that aim to provide services for PLN customers through digital media. The presence of the PLN mobile application is expected to increase customer satisfaction. This study aims to determine customer satisfaction factors, especially for PLN Mobile Application users. This study uses five variables, namely application reliability, interface display, complaints menu, and service response speed as independent variables, and customer satisfaction as the dependent variable, using multiple linear regression analysis. The method used in the study is using multiple linear regression. The results showed that the four independent variables could explain 93.4% of the dependent variable. In contrast, the remaining 6.6% was explained by other variables not included in this study. The independent variables X1 and X3 partially affect the dependent variable Y. In contrast, the independent variables X2 and X4 do not partially affect the dependent variable Y. The four independent variables together influence customer satisfaction variables. The empirical results of this study are higher level of application reliability and complaint menu, the higher the costumer satisfaction of PLN Mobile users.

DOI: 10.58860/ijsh.v2i3.28

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INTRODUCTION

Human needs are always evolving, including in terms of technology, and the world of service is no exception (Sitompul, 2017). Real examples that have been seen are transportation, ordering tickets, ordering food, and so on (Sheikh & van Ameijde, 2022). This phenomenon is an important concern for various large companies in Indonesia, and PLN is no exception (Fathoni & Setyowati, 2022). As a company engaged in the electricity sector, PLN plays a very important role in serving the community in carrying out their daily lives and must be able to adapt to the needs of these technological developments (Putri, 2011). On the other hand, PLN must also pay attention to the level of customer satisfaction so that *revenue* is maintained. For example, in the Bangka Belitung Regional Main Unit (UIW) PLN, the SKP scores for 2018, 2019, and 2020 were 99.22%, 99.25%, and 98.23%, meaning that for the last three consecutive years, the level of satisfaction PLN UIW Bangka Belitung subscribers are at a satisfactory rate. These figures will become PLN's reference for evaluating service quality, including what strategies to prepare in the future. One of the strategies to improve PLN's service quality is to present an application called PLN Mobile. This application will make accessing their needed services easier for PLN customers. In 2021, PLN sets several downloaders of the PLN Mobile application as a company performance item. This shows PLN's seriousness in improving services and using digital media as a communication portal in addition to the plan. Co.id website and pre-existing social media.

The PLN Mobile application is a challenge for PLN, where customer satisfaction with existing services will also be affected by the presence of these digital services. Customer satisfaction has the meaning of feeling happy or disappointed from someone who appears after comparing products or services from what they think with what they expect (Susanthi, 2011). For some people who follow technological developments, the presence of this application will be very helpful and means that smartphone users can accept it to implement the PLN Mobile application (NADHIF, 2018). Several previous studies have measured the relationship between the level of customer satisfaction and conventional service factors so that development can still be carried out in more detail by looking at the various factors that affect customer satisfaction on the technology side and on the customer trust side (Pambudi & Soliha, 2022). This study will analyze the relationship between factors on the technology side, in this case, the use of the PLN Mobile application, about the level of satisfaction felt by PLN customers. This is useful so that an evaluation can be carried out on the presence of the application in society in general and PLN customers. The benefits of this research are to contribute the development of science related to the level of customer satisfaction on PLN Mobile users. It also useful to provide recommendation for PLN Management in evaluate their programs on PLN Mobile application.

From 2021 until December 1, 2021, PLN's Tanjungpandan Customer Service Unit received 8,773 reports of disturbances and complaints that have been received and have been followed up on (source: PLN APKT EIS Web application), of which 5,891 were reported via the PLN Mobile application (source: Web application PLN Virtual Command Center).

This shows the level of use of PLN Mobile to report disturbances and complaints at 67.15%. This figure is quite high considering that the PLN Mobile application has only recently been introduced to the public, and can still grow in 2022 in line with the increasingly massive marketing of PLN Mobile products.

From these conditions, it is necessary to know the factors influencing customer satisfaction with PLN services, including those provided using the PLN Mobile application. Several factors are used to examine the level of customer satisfaction with using the PLN Mobile application in this study: application reliability, interface display, complaints menu, and service response speed. So the purpose of this research is to analyze the factors that influence customer satisfaction of mobile PLN users at the PLN Tanjungpandan customer service unit.

METHODS

Based on the literature review and the previous research concepts, a research concept was created to develop hypotheses for each variable related to customer satisfaction.

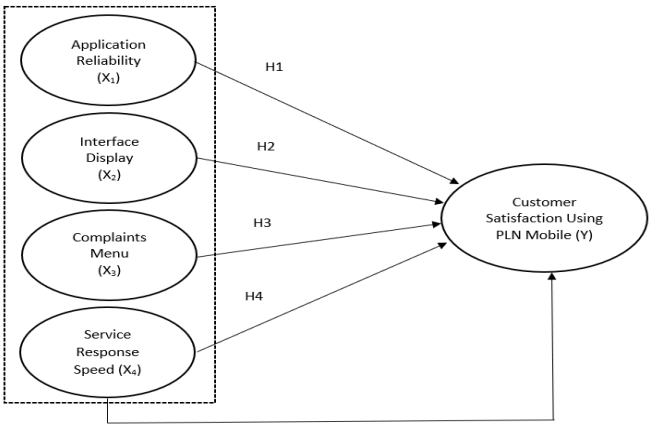

Figure 1. Research Concept

All variables are measured using a Likert scale. Each variable is hypothesized based on a literature review in the form of a theoretical basis or previous research. The hypothesis is made to test the effect of the independent variable on the dependent variable, considering the coefficient of influence and the significance level. This study's analysis method is a multiple linear regression method. This method is often chosen in research that using multiple factors affecting one dependant variable. It also can predict the value of dependant variable when all the independent variable has its values. This is done to know the relationship between two or more independent variables with one dependent variable (Triyanto et al., 2019).

From the theory of customer satisfaction and consumer behavior, as well as previous research on factors that can influence customer satisfaction, five hypotheses are compiled with the following details:

H1 : Application reliability has a positive and significant effect on customer satisfaction of PLN Mobile users at the PLN Tanjungpandan customer service unit.

H2 : The interface display positively and significantly affects customer satisfaction using the PLN Mobile Application at the PLN Tanjungpandan customer service unit.

H3 : The complaint menu positively and significantly affects customer satisfaction using the PLN Mobile Application at the PLN Tanjungpandan customer service unit.

H4 : Service response speed positively and significantly affects customer satisfaction using the PLN Mobile Application at the PLN Tanjungpandan customer service unit.

H5 : Application reliability, interface display, complaints menu, and service response speed significantly affect customer satisfaction using the PLN Mobile Application at the PLN Tanjungpandan customer service unit.

The research was held in the work environment of PT PLN Tanjungpandan Service Unit; in the customer segment, all tariff groups were spread out in the Belitung Regency area. At the same time, the time for research starts from the preparation stage in the form of submitting titles in May 2022, topic consultations in early June 2022, and reference collection and data processing in June - July 2022.

In general, the steps taken in this study are shown in the following diagram:

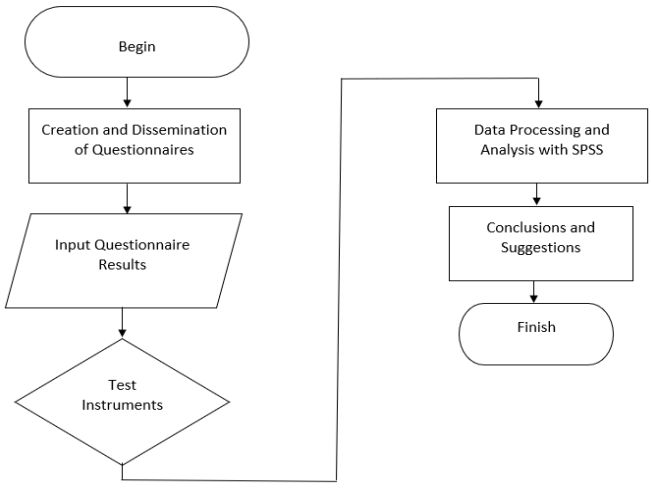

Figure 2. Flowchart of the research process

The method used to collect data as material for this study was a questionnaire distributed to PLN customers in Belitung Regency. The expected minimum sample size is 100 respondents. Data processing was performed using SPSS software version 26. Several series of tests were carried out prior to multiple linear regression analysis.

RESULTS AND DISCUSSION

The following data collection results were obtained from the distribution of the research questionnaire conducted in July 2022.

Table 1. Results of data collection

Information	Amount	Percentage
Number of respondents	100	100%
Valid questionnaire	100	100%
Invalid questionnaire	0	0%
Gender	**Frequency**	**Percentage**
Man	92	92%
Woman	8	8%
Total	100	100%
Age	**Frequency**	**Percentage**
< 23 years	6	6%
23 – 29 years	35	35%
30 – 40 years	36	36%
> 40 years	23	23%

From the results of distributing the questionnaires, data were obtained from 100 respondents who were all customers of PT PLN (Persero) ULP Tanjungpandan. The sexes who filled out the questionnaire had details of 92 males and eight females. It can be concluded that most of the respondents were male. The age range of respondents who inputted the questionnaire was spread with details of under 23 years of age 6%, ages 23-29 years of 35%, ages 30-40 years of 36%, and ages > 40 years of 23%. It can be concluded that respondents were dominated by customers aged 30-40.

The distribution of questionnaires provides quite diverse data. The results obtained are tabulated in the data and processed more deeply using the SPSS v26 software. Before conducting regression analysis, it is necessary to carry out a series of tests such as instrument validity and reliability tests, descriptive analysis, correlation tests, and classical assumption tests. Furthermore, multiple linear regression analysis was carried out by paying attention to the partial t-test, simultaneous F test, and coefficient of determination. SPSS data processing results provide analysis and conclusions on the variables that have been determined.

Regression Equation Analysis

Table 2. Regression Equation

Variable	Regression Coefficient	T count	Sig
Constant	-0.115		
X_1	1,181	12,849	0.000
X_2	0.106	1,497	0.138
X_3	0.102	2,805	0.006
X_4	0.036	0.517	0.607

The regression equation that can be concluded from the table above is:

$$\mathbf{Y = -0.115 + 1.181\ X_1 + 0.106X_2 + 0.102X_3 + 0.036X_4 + e}$$

From the regression equation obtained, the following conclusions can be drawn:

The constant -0.115 means that if all X variables, namely application reliability, interface display, complaints menu, and service response speed, are considered 0 (zero) or ignored, customer satisfaction will decrease.

Application Reliability Variable (X1) positively and significantly influences customer satisfaction with a coefficient of 1.181 and a significance of 0.000. This can mean customer satisfaction will increase if the interface display variables, complaints menu, and service response speed are ignored

or considered 0 (zero). The level of significance also indicates that these variable influences customer satisfaction. This is because the PLN Mobile Application is a technology that brings PLN together with customers. So that if the application on a smartphone device runs smoothly, it will increase customer satisfaction.

Conversely, suppose the application does not work properly and correctly. In that case, it could reduce the level of customer satisfaction. This is consistent with previous research that electronic service quality positively and significantly affects customer satisfaction, with a coefficient of 0.954 and a significance level of 0.000 (Hidayati, 2018). This means that the reliability of an application system is needed to increase customer satisfaction.

Interface Display Variable (X2) positively influences customer satisfaction with a regression coefficient of 0.106 and a significance of 0.138. This means that if the variable application reliability, complaints menu, and service response speed are ignored or considered 0 (zero), then customer satisfaction will increase. The regression coefficient value also shows that an attractive and easy-to-use application appearance contributes to the level of customer satisfaction of PLN Mobile Application users. Compared to previous research, the relationship between the implementation of information technology and customer satisfaction was obtained in the form of a negative effect with a coefficient of -0.890 and a significance level of 0.081 (Putria, 2018). Interface display on application is one part of communication system between companies and customers. Customer relationship management has no significant effect on corporate image of PLN East Java (Priyatna & Utomo, 2021). The appearance of the application and implementation of information technology in the service world does not fully affect customer satisfaction.

Complaint Menu Variable (X3) positively and significantly influences customer satisfaction with a coefficient of 0.102 and a significance of 0.006. This means that customer satisfaction will also increase if other variables, namely application reliability, interface appearance, and service response speed are ignored or considered 0 (zero). This variable's regression coefficient and significance level also show that the Complaints Menu in the PLN Mobile application affects customer satisfaction. In line with these results, previous research on the relationship between complaints to customer satisfaction also explains that there is a positive and significant effect with a coefficient of 0.206 and a significance of 0.208 (Syahputra et al., 2020). At PLN Siborongborong Sibolga, there was a also significant relationship between service quality and customer satisfaction (Sinaga & Sinaga, 2021). This is because PLN's services in the electricity sector are always related to the consumption of electrical energy used by customers. Any complaints, both disturbances and customer complaints, can be resolved using the PLN Mobile Application.

The service response speed variable (X4) positively influences customer satisfaction with a regression coefficient of 0.036 and a significance of 0.607. This means customer satisfaction will increase if other variables, namely application reliability, interface display, and complaints menu, are ignored or considered 0 (zero). The regression coefficient on this variable also shows that the service response speed influences customer satisfaction. The faster the service is provided through the PLN Mobile Application; the more customer satisfaction will increase. In line with these results, previous research on the relationship between service quality and customer satisfaction also explained a positive and significant effect with a coefficient of 0.575 and a significance of 0.000 (Ramenusa, 2013). Service quality also has a significant influence on customer satisfaction in PLN Tais Seluma District with t-count is greater than t-table (2.227 > 1.677) (Perianto et. al., 2021). This shows that the quality of service, one of which is the speed of response, is very important in customer service.

Determinant Coefficient

The determinant coefficient shows how far or how big a model is in explaining variations in the dependent variable. The value of the coefficient of determination is in the range of 0 (zero) and 1 (one). The value of the determinant coefficient close to one means that the independent variable increasingly provides the information needed to estimate the dependent variable.

The results of the Determinant Coefficient test are shown in the following table.

Table 3. The coefficient of determination

R Square	Adjust R Square	std. The error in the Estimate
0937	0.934	0.18910

In the results of the Determinant Coefficient test above, R2 (R Square) is 0.934. This explains the percentage of information provided by the variable Application Reliability, Interface Display, Complaints Menu, and Service Response Speed is 93.4%. In other words, the variation of the independent variables used in the model can explain the dependent variable by 93.4%. In comparison, the remaining 6.6% is influenced by other variables not present in this study.

Partial Test and Simultaneous Test

Hypothesis testing consists of two types: Partial Test (Test statistic t) and Simultaneous Test (Test statistic F). The t-statistical test shows how much the independent variables affect the dependent variable individually.

Table 4. Statistical test t

Variable	Sig.	conclusion
Application Reliability (X1)	0.000	H1 is accepted; there is a partial effect of X1 on Y
Interface Display (X2)	0.138	H1 is rejected; there is no partial effect of X2 on Y
Complaint Menu (X3)	0.006	H1 is accepted; there is a partial effect of X3 on Y
Service Response Speed (X4)	0.607	H1 is rejected; there is no partial effect of X4 on Y

The basis for the decision to test the t statistic is that if the significance is <alpha (0.05), the hypothesis is accepted, or in other words, there is a partial influence between the two variables (Assagaf, 2020).

From the results of the t-statistical test above, it can be concluded that the Application Reliability Variable has a t value of 12,849 (> t table 1.988) and a significance of 0.000 (<0.05). This means that the hypothesis is accepted, and the Application Reliability variable (X1) has a partial influence on Customer Satisfaction using PLN Mobile (Y). The Interface Display variable has a t value of 1.497 (< t table 1.988) and a significance of 0.138 (> 0.05). This means that the hypothesis is rejected, and there is no effect of the Interface Display variable (X2) on Customer Satisfaction using PLN Mobile (Y) partially. The Interface Display variable has a t value of 2.805 (> t table 1.988) and a significance of 0.006 (<0.05). This means that the hypothesis is accepted, and the Complaint Menu variable (X3) has a partial influence on Customer Satisfaction using PLN Mobile (Y). The service Response Speed variable has a t value of 0.517 (<t table 1.988) and a significance of 0.607 (> 0.05). This means that the hypothesis is rejected, and there is no effect of the Service Response Speed variable (X4) on Customer Satisfaction using PLN Mobile (Y) partially.

Of the four independent variables, only two (X1 and X3) individually influence the dependent variable (Y). The other two independent variables (X2 and X4) do not affect the dependent variable (Y). The F statistic test shows how much the independent variables jointly affect the dependent variable.

Table 5. Statistical Test F

Significance	Alpha	Conclusion
0.000	0.005	The hypothesis is accepted, X1 - X4 simultaneously affect Y

The basis for the decision to test the F statistic is that if the significance is <alpha (0.05), the hypothesis is accepted, or in other words, there is an influence between the variables together (Assagaf, 2020)

From the results of the F statistical test above, the calculated F value is 352,719 (> F table 3.92). A significance level of 0.000 (<0.05), so it can be concluded that the hypothesis is accepted, where the independent variables are application reliability and performance. The interface, Complaint Menu, and Service Response Speed Influence Customer Satisfaction with PLN Mobile users. All of this factor can lead the companies to achieve profits. Higher companies' profits could be achived by high customers satisfaction (Wahyuningsih, 2021).

CONCLUSION

The Variables of Application Reliability and Complaints Menu each partially influence Customer Satisfaction using the PLN Mobile Application. The interface displays variable and Service Response Speed do not partially affect Customer Satisfaction using the PLN Mobile Application. The Variables of Application Reliability, Interface Display, Complaints Menu, and Service Response Speed simultaneously influence Customer Satisfaction using the PLN Mobile Application. The Application Reliability Variable significantly influences Customer Satisfaction because customer service applications installed on smartphones must be able to work properly and smoothly. Meanwhile, the Complaints Menu variable significantly influences customer satisfaction because customers really need media for both disturbances and complaints that are fast and precise. The Interface Display Variable has no significant effect on Customer Satisfaction because the application's appearance is only limited to making the application look attractive. The form of the service itself influences the rest. Meanwhile, the Service Response Speed variable does not significantly affect Customer Satisfaction because customers only expect disturbance reports or complaints submitted to get an appropriate solution. At the same time, the service response speed is not the main factor.

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