

# THE EFFECT OF SERVICE QUALITY AND ISLAMIC BUSINESS ETHICAL VALUES ON CUSTOMER SATISFACTION OF PLN MOBILE APPLICATION USERS IN KAMPUNG BARU VILLAGE

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## Abstrak

### Keywords:

Service Quality,  
Islamic Business Ethics,  
Customer Satisfaction,  
PLN Mobile,  
Digital Public Service

The rapid development of digital technology has transformed the delivery of public services, including electricity services provided by PT PLN (Persero). To improve service efficiency and customer satisfaction, PLN introduced the PLN Mobile application as a digital service platform. However, studies that integrate service quality and Islamic business ethics values in rural areas remain limited. This study aims to examine the effect of service quality and Islamic business ethics values on customer satisfaction among PLN Mobile users in Kampung Baru Village. This research uses a quantitative approach with a causal associative design. Data were collected from 76 respondents mobile users through a structured Likert scale questionnaire. The independent variables are service quality and Islamic business ethics values, while customer satisfaction is the dependent variable. Data analysis was conducted using descriptive statistics and multiple linear regression, supported by classical assumption tests. The results indicate that service quality and Islamic business ethics values have a positive and significant effect on customer satisfaction. These findings show that customer satisfaction in digital public services is influenced not only technical performance but also by ethical principles such as honesty, transparency, trustworthiness, and fairness.

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## INTRODUCTION

Along with its work approaching the age of 75 years, PLN continues to strive to overcome various infrastructure and technical obstacles to realize energy independence and electrification throughout the country (Saing & Airlangga, 2024). As a state-owned enterprise that plays a sole role in the electricity sector, PLN is committed to continuing to present the latest strategies and innovations to improve customer satisfaction. All efforts are made, both through strengthening infrastructure and service updates, to ensure that the supply of electrical energy can be enjoyed to remote parts of the archipelago (Kau



et al., 2023). As a State-Owned Enterprise, PT PLN (Persero) plays a major role in providing and managing electricity to meet the needs of the community (Usman & Ramadhan, 2025).

In the midst of globalization, advances in information technology have changed people's lifestyles to be all-digital. The internet makes access to information happen instantly, especially through *smartphones* which is now the main need. This phenomenon has prompted many companies to digitize services to improve efficiency and customer reach. As one of the strategic SOEs, PT PLN (Persero) is also adapting by presenting online-based service innovations to facilitate public access to electricity (Akhirilanda et al., 2023). Optimal customer satisfaction can be achieved through service quality that prioritizes strategic features in answering their every need (Usman & Ramadhan, 2025). In the current economic system, the application of ethical values and sharia principles is fundamental for the sustainability of trusted business practices. The use of digital innovation allows companies to reach their target market efficiently. The alignment between sharia ethics and the use of technology today plays a major role in bridging the financial success of companies with positive contributions to social life (Laili et al., n.d.).

In the service industry, excellent service based on Islamic Business Ethics is an additional key to winning competition in a healthy and dignified manner. The application of this ethics that prioritizes the values of honesty, transparency, and fairness serves as an instrument to satisfy consumers, who ultimately transform into loyal customers. By prioritizing the value of service satisfaction, PLN can ensure business stability through a fixed customer base and trust in the company's credibility (Rohmaniah et al., 2024). The implementation of superior service is a must for PT PLN (Persero) as an electricity service provider to build user loyalty and satisfaction (Improve & Customer, 2019).

The use of the latest technology makes a positive contribution to strengthening collaboration and expanding access to information. This allows for greater efficiency and effectiveness in business operational management, so that companies are able to manage their organizational activities in a more structured manner (Simanjuntak et al., n.d.). As the main pillar of service transformation, PLN Mobile continues to be developed to facilitate customer interaction. Since the massive feature refresh at the end of 2020, PLN has continuously improved the capabilities of this application with various new services that are more responsive and easy to use. (Luthfiani & Sudiman, 2024). The support of cutting-edge technology not only facilitates day-to-day communication, but also meets the deep data needs of organizations. The proper use of technology acts as a catalyst in bridging the improvement of company performance, making it more adaptive to the fast-moving flow of information (Lubis & Ikhwan, 2023). Through ease of access to services, PLN is committed to increasing customer satisfaction as a tangible manifestation of the implementation of the customer-focused Transformation program (Usman & Ramadhan, 2025).

PLN's real steps in modernizing customer service are proven through the launch of PLN Mobile. By optimizing features on Android phones, this application allows customers to enjoy faster, more efficient, and transparent electricity services without having to be constrained by space and time (Febriyanti, 2025). PLN Mobile is here as proof of PLN's commitment to increasing consumer satisfaction through faster access through Android devices. Since it was inaugurated by the board of directors on October 31, 2016 in conjunction with the celebration of the 71st National Electricity Day, this application has become a key instrument in facilitating interaction between companies

and millions of customers throughout Indonesia (Against et al., 2022). However, obstacles in the delivery of information and public education are the factors that cause the lack of public understanding of the PLN Mobile application (Siahaan et al., 2025).

Excellent service is the foundation of success in the service industry. Beyond just handling complaints, service quality plays a vital role in influencing public perception and is a major determining factor in achieving sales targets and the sustainability of the Company's business (Ulp & Kota, 2023). PT PLN (Persero) carries out its mandate as the only agency appointed by the government to meet national electricity needs. The success of a company in the era of digital transformation depends heavily on its ability to provide customer satisfaction. In addition to ensuring financial stability, satisfied customers are strategic assets that independently help promote services, thereby strengthening the company's position in the eyes of the wider public (Simanjuntak et al., 2024). Making customer satisfaction a priority is the main key in boosting competitiveness and ensuring the long-term success of a business (Siahaan et al., 2025).

Various previous studies have discussed the influence of digital service quality on customer satisfaction of PLN Mobile application users. However, the amount of research still focuses on the technical aspects of service services and is generally carried out in urban areas. Meanwhile, studies that integrate service quality with Islamic business ethical values in the context of digital services are still relatively limited. In addition, research that specifically examines PLN Mobile application users in rural areas, especially in Kampung Baru Village, is still rare. In fact, the characteristics of rural communities have different levels of digital literacy, so they can affect the perception of service quality and customer satisfaction levels.

Based on these conditions, there is a research gap in the form of the absence of a study that simultaneously analyzes the influence of service quality and Islamic business ethics values on customer satisfaction of PLN Mobile application users in Kampung Baru Village. Therefore, this research is important to make an academic contribution to the development of digital service-based sharia business management studies, as well as provide practical input for PT PLN (Persero) in improving the quality of ethical and customer satisfaction-oriented services.

## LITERATURE REVIEW

This section aims to examine how organized company management and the use of digital technology can support each other in order to create satisfaction for PT PLN (Persero) customers. Here, we will dissect how the use of information technology combined with the rules of honesty in doing business (Islamic Ethics) can improve the quality of work while fostering customer trust in the company. In addition, this section also reviews the level of community satisfaction, especially residents in Kampung Baru Village who may have challenges in terms of age in using digital applications for their electricity needs. In order, there are four main discussions that form the basis of this article:

### ***The Concept of Effectiveness and Quality of Digital Public Services***

The need to provide high-quality public services and be able to provide satisfaction to the community has become an important responsibility for the government. The presence of the PLN Mobile application shifts customer communication channels to the digital realm, providing easy access to interaction with the help center without the need to be physically present at the service office (Usman & Ramadhan, 2025). Companies need to conduct periodic measurements and evaluations to ensure that the service standards and product quality provided are in line with customer expectations (Siregar & Putri, 2020). Therefore, the government is required to improve

and transform inadequate public services into more effective and quality services for the community (Johan, 2022). As a company that provides products and services, PT PLN (Persero) must strive to provide the best service in order to realize customer satisfaction. The provision of public services is regulated in the Law of the Republic of Indonesia Number 25 of 2009. According to the law, public services are all activities carried out to meet the needs of the community for services, including administrative affairs, goods, and services, in accordance with the legal rights of every citizen. Given the community's very high need for public services, customers certainly expect the government and in this case PLN to provide services that are not only good, but also effective and efficient (Di et al., 2025).

Along with the development of information technology, public services have undergone a transformation towards digital-based public services. The electricity supply sector has its own characteristics of challenges, where each company is required to be able to adapt to unique problems (Siregar & Putri, 2020). Effective digital public services are able to increase the ease of access to services and reduce people's waiting times. The PLN Mobile application is a form of digital public service developed by PT PLN (Persero) to improve the quality and effectiveness of service to customers. Through this application, the public can access various electricity services independently without having to come directly to the service office. Therefore, the quality and effectiveness of PLN Mobile's digital services are an important factor in determining customer satisfaction, especially for people in rural areas such as Kampung Baru Village.

#### ***PLN Mobile Service Innovation***

To improve its services, PT PLN (Persero) chooses to take advantage of advances in information and communication technology. PLN then created an innovation in the form of the PLN Mobile application. This application was created as an effort by PLN to improve services and communication with customers. PLN Mobile is an *Android-based customer self-service* application and is connected to PLN's internal systems such as the Integrated Complaints and Complaints Application (APKT) and the Centralized Customer Service Application (AP2T). Through PLN Mobile, customers and potential customers can now more easily access information, such as electricity bill details, blackout announcements, and other PLN service information. In addition, customers can easily file complaints in case of an electrical outage (Ilmu et al., n.d.). The implementation of this application aims to improve service standards by ensuring the availability of customer information more efficiently, easily accessible, and interactive (Febriyanti, 2025).

The *Self Service* features in this app greatly benefit rural communities or areas far from service offices, where they no longer need to travel long distances just to charge electricity tokens or submit nuisance complaints. In the service industry, excellent service is the foundation of success that cannot be negotiated. The quality of digital services presented in this application, ranging from the speed of access, clarity of information, to the ease of the system will greatly determine customer perception and their satisfaction. Satisfied customers not only ensure business stability, but also become a strategic asset.

#### ***The Value of Islamic Business Ethics in PLN Mobile Digital Services***

According to Hadimulyo's view, business ethics in an Islamic perspective is defined as the implementation of the principles of Islamic teachings that are fundamentally sourced from the Qur'an and Hadith, which are applied in the context of the business world. This principle focuses on ethical behavior (*akhlaq al Islamiyah*) that is surrounded by sharia values, specifically emphasizing halal and haram aspects. The most obvious illustration of this principle is the teaching on the prohibition of reducing scales, which directly reflects the importance of the value of honesty (*shiddiq*) in every business practice (Edi & Aristyanto, 2021).

In the context of digital-based public services, the values of Islamic business ethics remain relevant to be applied, including in PT PLN (Persero)'s digital services through the PLN Mobile application. The application of the values of honesty, trust, and fairness is reflected through the delivery of transparent service information, clarity of costs, reliability of the application system, and responsibility for handling customer complaints appropriately and

professionally. Service satisfaction includes a thorough assessment in which customers measure the value of the perceived reality against previous expectations, in order to determine whether the service meets their standards (Saing & Airlangga, 2024). Thus, the application of Islamic business ethics in PLN Mobile's digital services is not only aimed at meeting the technical aspects of services, but also building trust and customer satisfaction in a sustainable manner.

### ***Factors Affecting Customer Satisfaction***

In the midst of the rapid advancement of the digital era, information technology has completely changed the way people interact with various services, including public services. The energy sector, especially electricity services, is also feeling the impact. Therefore, the State Electricity Company (PLN) launched a mobile application called PLN Mobile. The app was created to make it easier for customers to do things like pay bills, report if there is a disruption, and find information about power outages. The main goal is clear, to make PLN's work more efficient and increase customer satisfaction in a faster and more responsive way (Internasional et al., 2024). The presence of the PLN Mobile application is an effort by PT PLN (Persero) to improve the quality of digital-based public services. Customers achieve a certain level of satisfaction after comparing the quality of service they expect with the actual perceived performance, which leads to the fulfillment of their needs (Saing & Airlangga, 2024). There are three main determinants that significantly affect service quality, namely system readiness, technological sophistication, and personnel competence (Siregar & Putri, 2020). However, the success of this service is not only determined by the technological aspect, but also by the quality of service and the application of ethical values in service that affect customer satisfaction.

## **RESEARCH METHODS**

This study uses a quantitative approach with an associative causal design to test and analyze the cause-effect relationship, namely the influence of independent variables on dependent variables. The research was conducted in Kampung Baru Village, with the population being all PLN customers in the region who use the PLN Mobile application. The sampling technique uses *Non-probability Sampling* with the criterion that respondents must be users of the PLN Mobile application. Primary data was collected through the distribution of questionnaires which were compiled based on indicators of three variables measured using the Likert scale: Service Quality (X1) and Islamic Business Ethics Value (X2) as independent variables, and Customer Satisfaction (Y) as dependent variables. Before analysis, the research instrument will be tested for its validity and reliability.

## **RESULTS AND DISCUSSION**

This section discusses the results of research obtained from the processing of questionnaire data distributed to PLN Mobile application users in Kampung Baru Village. The purpose of the analysis was to determine the influence of service quality and Islamic business ethical values on customer satisfaction. The data used in this study came from 76 respondents who were declared valid and worthy of analysis.

The research analysis began with the presentation of descriptive statistics to provide an overview of respondents' perceptions of service quality variables, Islamic business ethical values, and customer satisfaction. Furthermore, a classical assumption test is carried out to ensure that the regression model meets the requirements of the analysis, so that the test results can be interpreted appropriately.

The results of the research were then discussed by associating empirical findings with relevant theories and previous research, especially related to digital public services,

the PLN Mobile application, and the application of Islamic business ethics in improving customer satisfaction.

**Descriptive Statistics**

**Tabel 1. Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
X1	76	18.00	65.00	50.4868	9.90420
X2	76	13.00	40.00	31.6053	6.13640
Y	76	7.00	25.00	20.0000	3.86437
Valid N (listwise)	76				

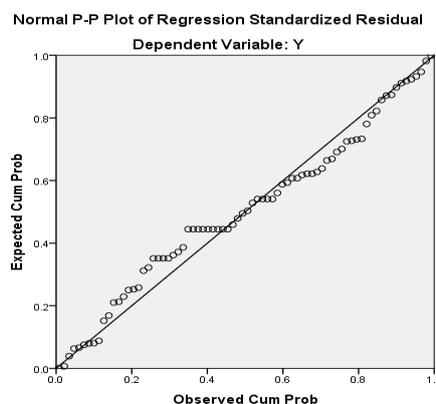
Based on the Descriptive Statistics table, it is known that the number of data analyzed was 76 respondents (N = 76). This descriptive statistic aims to provide an overview of the data characteristics of each variable, namely X1, X2, and Y.

**The X1 variable** has a minimum value of 18.00 and a maximum value of 65.00. The mean value of X1 was 50.4868, which indicates that in general respondents had a relatively high X1 score. Meanwhile, the standard deviation value of 9.90420 shows that there is considerable data variation between respondents. **The X2 variable** has a minimum value of 13.00 and a maximum of 40.00. The mean value of X2 was 31.6053, which means that most respondents had an X2 score above the mid-value of the data range. The standard deviation of 6.13640 indicates that the spread of X2 data is moderate. **Variable Y** has a minimum value of 7.00 and a maximum of 25.00, with an average value of 20.0000. This shows that the level of the Y variable in the respondents tends to be high. The standard deviation value of 3.86437 shows that the Y data is relatively more homogeneous than the variables X1 and X2. Overall, the descriptive statistical results show that the data from all three variables have a reasonable spread and can be used for further analysis.

**Classical Assumption Test Results**

After conducting a descriptive statistical analysis, the next stage is to perform a classical assumption test. This test is carried out to ensure that the resulting regression model meets the criteria of objectivity and is free from symptoms that may interfere with the validity of the research results. In this study, the classical assumption test carried out included the normality test, the multicollinearity test, and the heteroscedasticity test.

**Normality Test Results**



Based on the Normal P–P Plot of Regression Standardized Residual graph, it can be seen that the data points are spread around and follow a diagonal line. This indicates that the residual is normally distributed. Thus, the assumption of normality is met, so that the data is suitable for future regression analysis

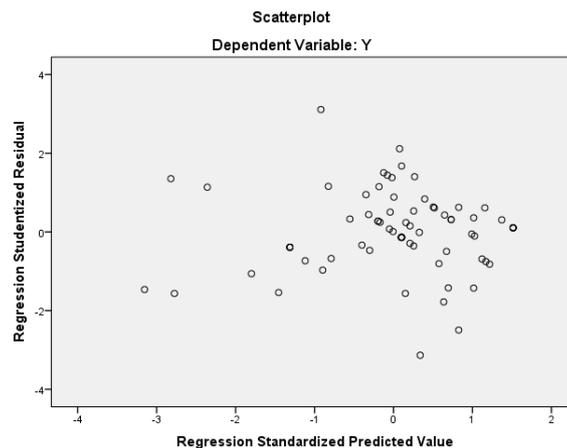
**Multicollinearity Test Results**

Variabel	Tolerance	VIF	Remarks
Quality of Service (X1)	.551	1.814	Multicollinearity-free
Islamic Business Ethics (X2)	.551	1.814	Multicollinearity-free

Based on the multicollinearity test table, it is known that the variables of Service Quality (X1) and Islamic Business Ethics (X2) have a Tolerance value of 0.551 ( $> 0.10$ ) and a VIF value of 1.814 ( $< 10$ ) respectively.

These results show that there is no strong relationship between independent variables. Thus, the regression model was declared free of multicollinearity and feasible for further analysis.

**Heteroscedasticity Test Results**



Based on the results of the heteroscedasticity test using a scatterplot graph, it can be seen that the residual points are randomly spread and do not form a specific pattern, and are scattered above and below zero. Thus, it can be concluded that the regression model does not experience heteroscedasticity and meets classical assumptions.

**CONCLUSION**

Based on the results of the research and discussions that have been conducted, it can be concluded that the quality of service and Islamic business ethics have an important role in shaping customer satisfaction of PLN Mobile application users in Kampung Baru Village. The results of descriptive statistics show that respondents' perception of service quality, the application of Islamic business ethics, and the level of customer satisfaction are in the high category, which indicates that PLN Mobile's digital services in general have been well received by rural communities.

The classical assumption test which includes normality, multicollinearity, and heteroscedasticity tests shows that the regression model used meets all the requirements of the

analysis, so that the results of the study can be declared valid and worthy of further interpretation. These findings reinforce that the quality of digital services which includes ease of use, clarity of information, and speed of service, as well as the application of Islamic business ethical values such as honesty, trustworthiness, and fairness, contribute to increased customer satisfaction.

Overall, this study confirms that the success of digital-based public services is not only determined by technical and technological aspects, but also by the consistency of the application of ethical values in service practices. Therefore, PT PLN (Persero) is expected to continue to improve the quality of PLN Mobile services in a sustainable manner while still prioritizing the principles of Islamic business ethics, especially in serving people in rural areas. This research is expected to be a reference for the development of sharia business management studies and a practical input for improving digital public services oriented towards customer satisfaction.

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