

The Role of Usefulness and Ease of Use in Increasing Customer Satisfaction Through User Attitudes towards the PLN Mobile Application at PT PLN (Persero) ULP North Balikpapan

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Abstract. *The results of this study indicate: (1) Perceived usefulness has been positive and significant effect on attitude toward use, where the more users feel the PLN Mobile application is useful, the more positive their attitude toward the application is; (2) Perceived ease of use has a positive and significant effect on attitude toward use, where the more users feel the PLN Mobile application is easy to use, the more positive their attitude toward the application is; (3) Perceived usefulness has a positive and significant effect on user satisfaction, where the more users feel the PLN Mobile application is useful, the higher their level of satisfaction with the application is; (4) Perceived ease of use has a positive and significant effect on user satisfaction, meaning the easier it is for users to use the PLN Mobile application, the greater their level of satisfaction with the application. (5) Attitude toward use has a positive and significant effect on user satisfaction. Then, Attitude toward use is able to mediate the influence of perceived usefulness on user satisfaction, and can also mediate the influence of perceived ease of use on user satisfaction.*

Keywords: *Perceived; Satisfaction; Usefulness.*

1. Introduction

Amidst the increasingly rapid flow of global development, the human need for information is becoming increasingly imperative and continues to increase. In keeping with the dynamics of the times, adequate and comprehensive technology plays a significant role in supporting the effective delivery and reception of information. Technological development itself is occurring at a rapid and widespread pace, no longer limited to people's daily activities. Both individuals and organizations now require large amounts of data and information to streamline work processes and improve organizational performance effectiveness. Timely information delivery plays a crucial role because it can provide numerous benefits, such as increasing workforce productivity, saving operational costs, minimizing errors, and ensuring information is received without delay. With the rapid development of the times, we now live in an era of globalization and modernization that demands that people adapt more quickly to change.

Thanks to technological advances, people can now access a variety of information and the latest news more easily, whether through print, electronic, or online media. Furthermore, the development of technology and information systems is also expected to facilitate interaction between people more effectively and efficiently than ever before.

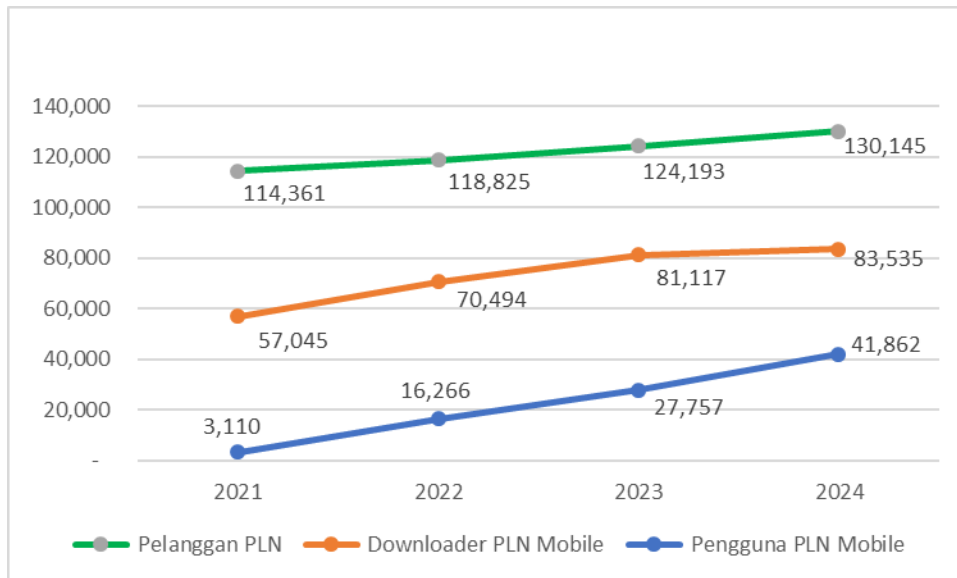
As society's need for mobility increases, technological development continues to accelerate. Smartphones have become a crucial device for supporting daily activities, offering convenience to users. Various mobile applications are now available and are gaining popularity, as they help simplify various daily activities.

PT. Perusahaan Listrik Negara (PLN) (Persero) is a provider of electricity services aimed at the wider community. PLN's work processes encompass everything from managing power plants to distributing power through a distribution network that reaches customers throughout Indonesia. Recognizing the importance of providing easy access, PT. PLN (Persero) also leverages technological advances to enable the public to access various services without having to visit the office in person.

PT. PLN (Persero) continuously implements various innovations in line with technological developments and the demands of the times. One such breakthrough is the launch of an Android-based application called PLN Mobile. This application is directly connected to the Integrated Complaints and Complaints Application (APKT) and the Centralized Customer Service Application (AP2T), so that the entire service system can run more efficiently. Through PLN Mobile, the public can now easily access various facilities, from checking electricity bill information, requesting additional power, submitting outage reports, to obtaining various other information related to electricity services. This application is available and can be used by all levels of society without exception.

This research focuses on analyzing the level of customer satisfaction using the PLN Mobile Application at PT. PLN ULP Balikpapan Utara. Satisfaction itself provides a picture of the feelings of pleasure or disappointment that arise when someone compares their expectations with the results or performance received (P. Kotler, 2000). The level of user satisfaction can influence customer loyalty and fidelity, which ultimately has a positive impact on the sustainability of an organization or company. Furthermore, satisfied customers tend to be willing to provide recommendations to potential new customers (I. Gede and Sumiari, 2017).

Even though PLN Mobile has been introduced, the level of adoption and user satisfaction with this application still shows significant variations in various regions, including at PLN ULP North Balikpapan with the data in Figure 1.1 below:



Source: AP2T PLN

Figure North Balikpapan ULP Customer Data

Based on this data, there is still a gap of more than 40% between the number of PLN customers and the number of downloads of the PLN Mobile application and the number of users. This situation actually opens up space for PLN to examine the factors influencing the acceptance of information technology, particularly in relation to user satisfaction, so that the number of PLN Mobile application users can continue to grow. This phenomenon can be analyzed using a theoretical framework known as the Technology Acceptance Model (TAM). This model, first introduced by Davis and colleagues in 1989, aims to reveal how a person's beliefs, attitudes, and goals in using technology are formed. Through TAM, the relationship between perceived usefulness, ease of use, and user attitudes towards the intention to use technology can be directly explained (Aini et al., 2023). According to this model, an individual's intention and attitude in using information technology are significantly influenced by how they assess the application's usefulness and ease of operation. Ultimately, these perceptions play a significant role in determining the level of user satisfaction with the technology.

Several previous studies have revealed unanswered research gaps. Research by Ken Sudarti & Susi (2018) and Novita & Helena (2021) suggests that usefulness and ease of use positively influence user attitudes. Furthermore, research conducted by Widyawati et al. (2024) used questionnaires to E-Payment users at Dinamika Bangsa University as a data collection method. The results show that user attitudes have a positive and significant influence on customer satisfaction levels.

2. Research Methods

In this study, all data obtained is presented numerically and subsequently analyzed using statistical methods. Therefore, this study uses a quantitative approach. The quantitative

approach emphasizes the measurement and analysis of causal relationships between variables, rather than the process itself, thus conducting the investigation within a framework free from subjective judgment (Hardayani et al., 2020). In accordance with the stated research objectives, the chosen type of research is explanatory research with an associative nature. This research is designed to identify the relationship between two or more variables (Sugiyono, 2013). Explanatory research aims to test hypotheses while assessing the influence of independent variables on dependent variables. In the context of this study, this objective is achieved by analyzing the role of usefulness and ease of use on customer satisfaction, where attention toward use acts as a mediating variable. This study utilizes quantitative data as its source of information. According to Kuncoro (2021), quantitative data is a type of data that can be directly assessed or calculated, in the form of information or descriptions presented in numbers or statistical form.

3. Results and Discussion

This study involved users of the PLN Mobile application at the North Balikpapan ULP. Data were collected through an online questionnaire distributed using Google Forms and WhatsApp, from June 18 to July 14, 2025, resulting in 171 responses. After verification, 15 responses did not meet the respondent criteria, namely active users of the PLN application with at least two transactions, and were therefore not used. The remaining 156 responses passed verification and met the requirements for respondents. Therefore, the data analysis used answers from these 156 respondents.

Table Respondent Characteristics

Characteristics	Information	Frequency	Percentage
Gender	Man	132	84.6%
	Woman	24	15.4%
Total		156	100%
Age	15 – 20 years	2	1.3%
	21 – 30 years old	28	17.9%
	31 – 40 years old	62	39.7%
	41 – 50 years old	40	25.6%
	>50 years	24	15.4%
Total		156	100%
Level of education	Elementary school or equivalent	2	1.3%
	junior high school or equivalent	5	3.2%
	High school or equivalent	113	72.4%
	Diploma	11	7.1%
	Bachelor's Degree (S1/S2/S3)	25	16.0%
Total		156	100%
Work	Students	3	1.9%
	Civil Servants/Police/TNI/State-	27	17.3%
	Owned Enterprises	117	75.0%
	Private sector employee	9	5.8%
	Self-employed		
Total		156	100%
PLN Mobile Usage	Pay bills/buy tokens	93	59.6%

Characteristics	Information	Frequency	Percentage
	PB/PD/PS Services	8	5.1%
	Complaints about disturbances/complaints	55	35.3%
Total		156	100%
Frequency of PLN Mobile usage	2 times	32	20.5%
	3 times	5	3.2%
	>3 times	119	76.3%
Total		156	100%

Based on the number of samples obtained, namely 156 users of the PLN Mobile ULP North Balikpapan application, it is known that 84.6% are men, this shows that men as heads of families are responsible for paying electricity bills or reporting electrical disturbances. Age characteristics show that as many as 39.7% of PLN Mobile ULP North Balikpapan application users are aged 31-40 years, at this age, many people already have their own families and households, Managing electricity bills, including checking usage and making payments, becomes a more significant responsibility. Characteristics of education level show that as many as 72.4% of PLN Mobile ULP North Balikpapan application users have a high school education level or equivalent, this shows that most PLN Mobile ULP North Balikpapan application users have a secondary education level. Occupational characteristics show that as many as 75% of PLN Mobile ULP North Balikpapan application users are private employees, this means that private employees often need information related to electricity bills, usage history, and other services available in the PLN Mobile application. The characteristics of PLN mobile usage are known to be 59.6% used to pay electricity bills/tokens, this shows that respondents tend to use the application a lot to pay electricity bills because of the convenience and practicality it offers without having to queue or waste travel time. The frequency of PLN mobile use shows that 76.3% of respondents use the PLN mobile application more than 3 times per year, this shows that respondents are active users of PLN mobile.

The purpose of descriptive analysis is to assess how respondents responded to each question. This analysis provides an overview of customer perspectives on questions related to variables such as usefulness, perceived ease of use, user attitudes, and customer satisfaction. To map respondents' responses to each of these variables, this study grouped scores into categories using a scale range calculated using the following formula (Umar, 2017):

$$Ho_{spi} = \frac{TT - TR}{Scale}$$

Information

RS:Scale Range

TR:Lowest Score (1)

TT: Highest Score (5)

Based on the formula above, the scale range can be calculated:

$$Ho_{spital} = \frac{5 - 1}{3}$$

$$Ho_{spital} : 1.3$$

Thus the interval value can be explained as follows:

Low: 1 – 2.33

Medium: 2.34 – 3.67

Height: 3.68 – 5.0

Responses from 156 users of the PLN Mobile ULP North Balikpapan application regarding *usefulness, perceived ease of use, user attitudes* and *customer satisfaction* can be explained as follows:

1) *Usefulness*

Description Table *Usefulness*

Code	Indicator	STS	TS	CS	S	SS	Mean	Criteria
PU1	<i>Service</i>	2	0	8	58	88	4.47	Tall
PU2	<i>Benefits</i>	2	3	11	65	75	4.33	Tall
PU3	<i>Efficient</i>	1	0	12	58	85	4.45	Tall
PU4	<i>Effective</i>	1	0	8	56	91	4.51	Tall
Average							4.44	Tall

From the table show if the respondent's response is related to usefulness has an average value of 4.44 (high) which means that the average respondent gave an agreeing response to the statement in the questionnaire, this shows that users of the North Balikpapan PLN Mobile ULP application have *usefulness* High. Respondents' responses regarding effectiveness were the highest indicator, with a mean value of 4.51 (high). This indicates that users feel the PLN Mobile app allows them to access various PLN services anytime without having to queue. Furthermore, responses regarding benefits received an average value of 4.33, the lowest indicator in this variable, but categorized as high. This indicates that users feel the services available in the PLN Mobile app cover all the features they need.

2) *Perceived Ease of Use*

Description Table *Perceived Ease of Use*

Code	Indicator	STS	TS	CS	S	SS	Mean	Criteria
PEOU1	<i>Interactive</i>	1	2	12	61	80	4.39	Tall
PEOU2	<i>Easy to understand</i>	1	2	11	64	78	4.38	Tall
PEOU3	<i>User friendly</i>	1	2	10	65	78	4.39	Tall
Average							4.39	Tall

From the table, show If Respondents' responses regarding perceived ease of use has an average value of 4.39 (high) which means that the average respondent gave an agreeing response to the statement in the questionnaire, this shows that users of the North Balikpapan PLN Mobile ULP application have *perceived ease of use* High. Respondents' responses regarding interactivity and user-friendliness were the highest indicators, with a mean value of 4.39 (high) each. This indicates that users feel the PLN Mobile application provides a fast response when interacting with its features, which are easy to use and control. Furthermore, responses related to ease of understanding received an average value of 4.28, the lowest indicator in this variable, but in the high category. This indicates that users find the instructions and information in the PLN Mobile application easy to understand.

3) *User attitudes*

Description Table *User attitudes*

Code	Indicator	STS	TS	CS	S	SS	Mean	Criteria
ATU1	Gives a feeling of pleasure	1	0	14	63	78	4.39	Tall
ATU2	Sure to use again	0	1	14	73	68	4.33	Tall
ATU3	Enthusiastic	0	1	18	69	68	4.31	Tall
Average							4.34	Tall

From the table show If respondents' responses regarding user attitudes has an average value of 4.34 (high) which means that the average respondent gave an agreeing response to the statement in the questionnaire, this shows that users of the North Balikpapan PLN Mobile ULP application have *user attitudes* High. Respondents' responses regarding feelings of pleasure were the highest indicator, with a mean value of 4.39 (high). This indicates that users feel comfortable using the PLN Mobile application. Furthermore, responses related to enthusiasm received an average value of 4.31, the lowest indicator in this variable, but still categorized as high. This indicates that users are very enthusiastic about using the PLN Mobile application service.

4) *Customer satisfaction*

Description Table *Customer satisfaction*

Code	Indikator	STS	TS	CS	S	SS	Mean	Criteria
US1	<i>Overall satisfaction</i>	1	0	12	58	85	4.45	Tall
US2	<i>Confirmation expectation</i>	2	1	16	62	75	4.33	Tall
US3	<i>Comparison to ideal</i>	1	2	10	71	72	4.35	Tall
Average							4.38	Tall

From the table show If respondents' responses regarding customer satisfaction has an average value of 4.38 (high) which means that the average respondent gave an agreeing response to the statement in the questionnaire, this shows that users of the North Balikpapan PLN Mobile ULP application have *customer satisfaction* high. Respondents' responses regarding overall satisfaction were the highest indicator, with a mean value of 4.45 (high). This shows that users feel satisfied using the PLN Mobile application for electricity needs. Then, responses related to confirmation expectations obtained an average score of 4.33, the lowest indicator in this variable, but it is in the high category. This shows that users feel that the services available on the PLN Mobile application meet expectations.

Discussion:

1) Direct Influence

The direct impact on the research as proposed hypotheses and research findings can be discussed, namely:

a. Influence *Usefulness* above *user attitudes*

The research results show that usefulness has a significant and positive influence on user attitudes. The more users perceive the PLN Mobile app as useful, the more positive their attitudes toward its use. Usefulness, in this case, refers to users' belief that using the PLN Mobile app will improve their performance or provide specific benefits.

The research results show that the relationship between usefulness (PU) and user attitudes (ATU) is such that the higher the user's perception of the usefulness (usefulness) of a technology, the more positive their attitude toward its use. In other words, if users believe that technology will help them achieve their goals or improve their performance, they will have a more positive attitude toward its use.

Users feel The PLN Mobile application helps them in various ways (such as checking bills, purchasing tokens, or submitting complaints), they have a more positive attitude towards the application. Users who feel the PLN Mobile application makes it easier for them to carry out transactions or obtain information about electricity bills are more likely to prefer using the application and have a positive attitude towards it.

These results are in accordance with research Which implemented by Mulyono, Gancar and Premananto (2022) if the benefit has a significant positive influence on user attitudes. Similarly, research conducted by Aditya (2022) found that usefulness influences perceived attitude toward use. This is relevant to research conducted by Prabowo et al. (2024), which found that the higher the user's perception of an application's usefulness (usefulness), the more positive their attitude toward using the application (attitude toward use).

This means that usefulness has a positive influence on user attitudes. This means that the more users perceive a technology to be useful, the more likely they are to develop a positive

attitude toward its use. This positive attitude, in turn, can influence users' behavioral intention to use the technology. Therefore, the relationship between usefulness and user attitudes is that the perception of usefulness of technology plays a significant role in fostering positive user attitudes toward its use, and this is a key factor in the technology acceptance model (TAM).

b. *Influence Ease of use above suser attitudes*

The research results show that *perceived ease of use* has a significant and positive influence on *suser attitudes*, where the easier users find it to use the PLN Mobile application, the more positive their attitudes toward its use. Perceived ease of use in this study refers to users' perceptions of how easy it is for them to use a technology or system. In this context, it refers to how easy users feel using the PLN Mobile application.

Users who find the PLN Mobile app easy to use have a more favorable opinion of the app and are more likely to continue using it. If users find the PLN Mobile application easy to use, they will show an acceptance of it. Conversely, if they do not find it easy to use, they will reject it. Therefore, technology acceptance is based on users' perceptions of ease of use.

The results of this study align with those of Pratama, Wulandari, and Indyastuti (2022), which reported a significant and positive partial effect between perceived ease of use and attitudes. Similar research conducted by Andriane (2020) also provided empirical evidence of a significant influence of perceived ease of use on attitudes during technology adoption. This is relevant to research conducted by Prasetya and Lestari (2024), which reported that increasing perceived ease of use of a technology will encourage positive attitudes.

The relationship between ease of use (perceived ease of use) and user attitudes (attitude toward use) is significant and positive. This means that the easier a technology or system is perceived by users, the more positive their attitudes toward using that system will be. Several studies have shown that ease of use directly influences user attitudes.

This means that if users perceive a system as easy to use (high ease of use), they will have a more favorable attitude toward using the system (high user attitude), as shown in the study. Conversely, if the system is difficult to use, users will have a less positive attitude. For example, if a mobile application is easy to navigate and understand, users will tend to feel comfortable and enjoy using it, which will ultimately result in a positive attitude toward the application. In conclusion, ensuring that technology or systems are easy to use is key to fostering positive user attitudes. By providing a positive user experience, organizations can increase the acceptance and usage of their systems (Saiful, 2020).

c. *Influence Use fulness above kcustomer satisfaction*

The research results show that *use fulness* has a significant and positive influence on *customer satisfaction*, where the more users find the PLN Mobile application useful, the higher their level of satisfaction with the application. User satisfaction with PLN Mobile provides an

overview of how well this application is able to meet their expectations, both in terms of ease of use, availability of information, and quality of service provided. Currently, PLN Mobile offers a variety of features, including Internet, Electricity, Token & Payment, ListriQu, Meter Record, Complaints, SPKLU, New Connections, Stimulus Information, temporary Cost Simulation, and Power Changes. In addition, PLN Mobile collaborates with various banks and FinTech companies to facilitate electricity bill payment transactions and electricity token purchases.

The usability of a technology is a crucial aspect in increasing user satisfaction. When technology can support work effectiveness and productivity, it indicates its high utility. Therefore, if each PLN Mobile service is perceived as beneficial or convenient for users, their satisfaction tends to be maintained. In practice, when users perceive that PLN Mobile helps them manage various services, such as checking bills, making payments, or reporting outages, they typically rate the app as more satisfactory.

Research conducted by Irawan and Utamajaya (2024) found that every increase in perceived usefulness of an application is followed by an increase in user satisfaction. This also aligns with research conducted by Ginting et al. (2024) that found that perceived usefulness has a positive influence on user satisfaction. Similarly, research conducted by Ayuni, Artana, and Hartawan (2025) found that higher perceived usefulness leads to higher user satisfaction.

Usefulness Perceived usefulness (perceived usefulness) has a significant and positive relationship with customer satisfaction (user satisfaction). This means that the higher the perceived usefulness of a product or service, the higher the level of user satisfaction. Studies show that positive perceived usefulness leads users to feel more satisfied with the products or services they use. For example, if users perceive an application as making their work easier or faster, they are likely to be more satisfied with that application.

For example, a user who finds a digital wallet app easy to use and provides benefits for transactions will tend to be more satisfied with the app. For example, PLN Mobile app users who find the app easier to pay for electricity bills, handle complaints, and so on will report higher levels of satisfaction. Perceived usefulness is a key factor influencing user satisfaction. The higher the perceived usefulness, the greater the potential for user satisfaction with a product or service.

d. Influence *Ease of use* above *customer satisfaction*

The research results show that perceived ease of use has a significant and positive influence on customer satisfaction. The easier it is for users to use the PLN Mobile app, the greater their satisfaction with the app. Perceived ease of use refers to how easy it is for users to use PLN Mobile. If users feel they don't need to exert much effort to use PLN Mobile, then the perceived ease of use is high.

An application designed with intuitive navigation and an easy-to-use interface, Users will find it easier to complete their tasks within the app. As a result, they will be more likely to be

satisfied with the app. Conversely, a complex app with numerous menus and confusing steps will likely leave users frustrated and dissatisfied. In the context of PLN Mobile, the app's ease of use, such as easy navigation, a clear display, and a simple process for checking bills, purchasing tokens, or reporting outages, will increase user satisfaction. When users perceive PLN Mobile's ease of use, they are more likely to continue using the app and recommend it to others.

Research conducted Sihotang and Putri (2023) showed that ease of use has a significant and positive influence on user satisfaction with the PLN Mobile application. This finding is supported by research by Hamzah and Irawan (2023) that found that ease of use influences user satisfaction with the PLN Mobile application. This finding is relevant to research by Witjaksono and Tanjung (2024) that ease of use increases user satisfaction.

The results of this study indicate that ease of use (perceived ease of use) has a significant and positive influence on user satisfaction (customer satisfaction). The more users perceive a system or product as easy to use, the higher their satisfaction levels. Research shows that one of the main factors influencing user satisfaction is ease of use. When a system feels practical to users, they typically feel more satisfied and are more likely to continue using it. Therefore, focusing on developing products or systems that are easy to use is an effective strategy for increasing user satisfaction.

e. Influence *User attitudes* above *customer satisfaction*

The research results show that user attitudes have a significant and positive influence on customer satisfaction, with user satisfaction levels tending to increase as their attitudes toward the PLN Mobile app become more positive. This attitude reflects a person's feelings, both positive and negative, toward a particular behavior, in this context, using the PLN Mobile app.

Positive attitudes, such as enthusiasm and trust in the ease of the PLN Mobile application, tend to lead to increased satisfaction. Conversely, negative attitudes, such as doubt or disappointment with the app's features or performance, can decrease satisfaction. Users' attitudes toward the PLN Mobile app are shaped by their expectations. If users have high expectations and the PLN mobile app meets or even exceeds those expectations, satisfaction will increase. Conversely, if the PLN mobile app does not meet expectations, satisfaction will decrease. Users with positive attitudes tend to be more motivated to explore the app's features and complete their tasks with the app. This can lead to improved user experience and overall satisfaction. User attitudes also influence how users evaluate their experience with the PLN mobile app. Users with positive attitudes tend to give favorable evaluations of the app, even if there are minor flaws. Conversely, users with negative attitudes may tend to give more critical evaluations, even if there are positive aspects of the app.

Research that A study conducted by Sholihah and Indriyanti (2022) showed that user attitudes influence customer satisfaction. This is consistent with research conducted by Setiawan,

Purnama, and Suroto (2023), which found that user attitudes significantly influence user behavior. These findings are supported by research by Rohman, Mukhsin, and Ganika (2023), which found that positive attitudes toward technology or systems increase the likelihood of users being satisfied with their experience. This means that if users have a positive view of how a system works, they tend to be more satisfied with its use.

The relationship between user attitudes (Attitude Toward Use) and customer satisfaction (User Satisfaction) is significant and positive. This means that the more positive a user's attitude toward a technology or system, the higher the user's level of satisfaction with that system. User attitudes (ATU) are a person's negative or positive attitudes or feelings toward using a technology or system. This attitude is influenced by the user's perception of ease of use (ease of use) and usefulness (usefulness).

Research shows that if users perceive a system as easy to use and beneficial, they will have a more positive attitude toward it. This positive attitude will then contribute to increased user satisfaction with the system overall. For example, if users find the PLN mobile app easy to learn and helps them complete tasks more quickly, they will have a more positive attitude toward the app and feel satisfied when using it.

The implications of this research are that understanding the relationship between user attitudes and satisfaction is crucial for system developers to create products that are not only functional but also easy to use and provide a pleasant user experience. Therefore, user attitudes play a crucial role in achieving user satisfaction (customer satisfaction).

2) Indirect Influence

Indirect influences on research as proposed hypotheses and research findings can be discussed, namely:

a. Role *User attitudes* in Mediating Influence *Usefulness* above *customer satisfaction*

The research results show that user attitudes can significantly and positively mediate the influence of usefulness on user satisfaction. This means that the more users perceive PLN Mobile as useful (usefulness), the more positive their attitudes toward using the app will be, ultimately increasing their satisfaction with the app.

Usefulness influences user attitudes, and user attitudes in turn influence customer satisfaction. So, the benefits felt by PLN mobile users do not directly increase their satisfaction. However, perceived benefits will create a positive attitude towards use, and this positive attitude then leads to increased satisfaction of PLN mobile users. Users who find the PLN mobile application very helpful, for example, for checking bills, purchasing electricity tokens, etc. (positive usefulness), will have a more positive attitude towards using the application (user attitude). This positive attitude, such as feeling the application is easy to use, fun, and useful, will ultimately lead to increased user satisfaction (customer satisfaction).

Research by Pratama, Wulandari, and Indyastuti (2022) provides evidence that user attitudes mediate the influence of perceived usefulness on satisfaction with the PLN Daily application. This study compares the results with those of Mulyono, Gancar, and Premananto (2022) because their findings indicate that user attitudes mediate the relationship between perceived usefulness and user satisfaction. Another relevant study, by Prabowo et al. (2024), suggests that perceived usefulness has a positive relationship with satisfaction, mediated by attitudes.

b. *Role User attitudes in Mediating Influence Ease of use above kcustomer satisfaction*

The research results show that user attitudes can significantly and positively mediate the effect of perceived ease of use on user satisfaction. This means that perceived ease of use influences user attitudes toward the technology, and these attitudes, in turn, influence user satisfaction. Therefore, ease of use does not directly influence satisfaction, but rather, it is through user attitudes.

Users who find the PLN Mobile app easy to use tend to develop a more positive attitude toward it. This positive attitude, in turn, will lead to increased user satisfaction. Thus, perceived ease of use acts as a "bridge" or factor influencing user attitudes, which in turn influence user satisfaction. Users who perceive the PLN Mobile app as easy to use for paying electricity bills (perceived ease of use) are likely to have a more favorable attitude toward the app (for example, they may find it practical and efficient). This more positive attitude will ultimately lead to increased user satisfaction in using the PLN Mobile app.

Hamzah and Irawan's (2023) research provides evidence that user attitudes mediate the influence of perceived ease of use on satisfaction with the PLN mobile application. These findings are supported by Rohman, Mukhsin, and Ganika's (2023) research, which states that user attitudes mediate the relationship between perceived ease of use and user satisfaction. This is relevant to the research conducted by Sholihah and Indriyanti (2022), which found that perceived ease of use has a positive relationship with satisfaction, mediated by attitudes.

The influence of ease of use (perceived ease of use) on customer satisfaction (user satisfaction) through user attitudes (attitude towards use) in the context of the technology acceptance model (TAM) is if perceived ease of use positively influences user attitudes towards technology use, which in turn increases user satisfaction. Imagine a mobile application. If the application is easy to navigate and its features are easy to understand (high PEOU), users will have a more favorable attitude towards the application (ATU). This positive attitude will make users more satisfied when using the application, perhaps even recommend it to others (providing increased Customer Satisfaction). Thus, ease of use plays a crucial role in achieving customer satisfaction through user behavior. Ensuring a system is easy to use will create a positive user experience and increase user satisfaction.

4. Conclusion

From the results of the research that has been carried out, it can be concluded that: *Usefulness* has a significant and positive influence on *suser attitudes*, where the more users feel the PLN Mobile application is useful, the more positive the user's attitude towards the application. *Ease of use* has a significant and positive influence on *suser attitudes*, where the easier it is for users to use the PLN Mobile application, the more positive their attitude towards the application. *Usefulness* has a significant and positive influence on *kcustomer satisfaction*, where the more users feel the PLN Mobile application is useful, the higher the level of satisfaction with the application. *Ease of use* has a significant and positive influence on *kcustomer satisfaction*, where the easier it is for users to use the PLN Mobile application, the greater the level of user satisfaction with the application. *User attitudes* has a significant and positive influence on customer satisfaction and user attitudes are able to mediate the influence of usefulness and *Ease of use* regarding customer satisfaction, this means that the perception of convenience and benefits of PLN Mobile will reflect the user's attitude towards the technology, and this attitude will then influence user satisfaction. *User attitudes* are able to mediate influence *usefulness* above *kcustomer satisfaction*, it means users who feel that PLN Mobile is useful will develop a positive attitude and this positive attitude will ultimately increase user satisfaction. *User attitudes* are able to mediate influence *Ease of use* on customer satisfaction, meaning that the perception of ease of use of PLN mobile will increase positive attitudes towards the use of this technology, and this positive attitude will ultimately increase user satisfaction.

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