TECHNOLOGY ACCEPTANCE OF THE POWER OUTAGE COMPLAINT REPORTING FEATURE ON "NEW PLN MOBILE" APPLICATION

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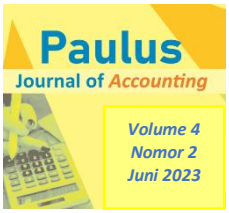

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Abstract: This study aims to measure the level of technology acceptance of the outage reporting feature in the "New PLN Mobile" application. This research will be conducted at PT PLN UP03 South Makassar working area. Where the sample in this study were users of the New PLN Mobile application who live in the work area of the object under study. Furthermore, this research is a quantitative descriptive study with the aim of analyzing in depth the technological acceptance of the outage reporting feature in the "New PLN Mobile" application using the Technology Acceptance Model (TAM) framework. The results showed that there are four measurement dimensions used in this study, namely perceived usefulness, perceived ease of use, intention to use and actual use. The majority of measurement indicators are categorized as excellent. However, there is one measurement indicator that is not appropriate when applied to the object of this research, namely the number of reports that have been successfully sent as one of the measurement indicators of actual use is not appropriate to use on the object of research if it is based on how often someone sends a complaint (this is suitable for high-frequency transactions such as the banking service sector).

INTRODUCTION

Digital transformation utilizes digital technologies to enable cross-border interactions with suppliers, customers, and competitors (Buhalis & Spada, 2000; Varlamova et al., 2020). Therefore, digital technologies are able to transform firms by enhancing existing core competencies or developing new ones and can help to achieve a competitive advantage. Digital transformation is inherently linked to strategic changes in business models as a result of the application of digital technologies (Prasetya et al., 2022). Digital transformation is a firm-wide phenomenon with broad organizational implications where, notably, a firm's core business model may change through the use of digital technologies (Steinhoff & Palmatier, 2021).

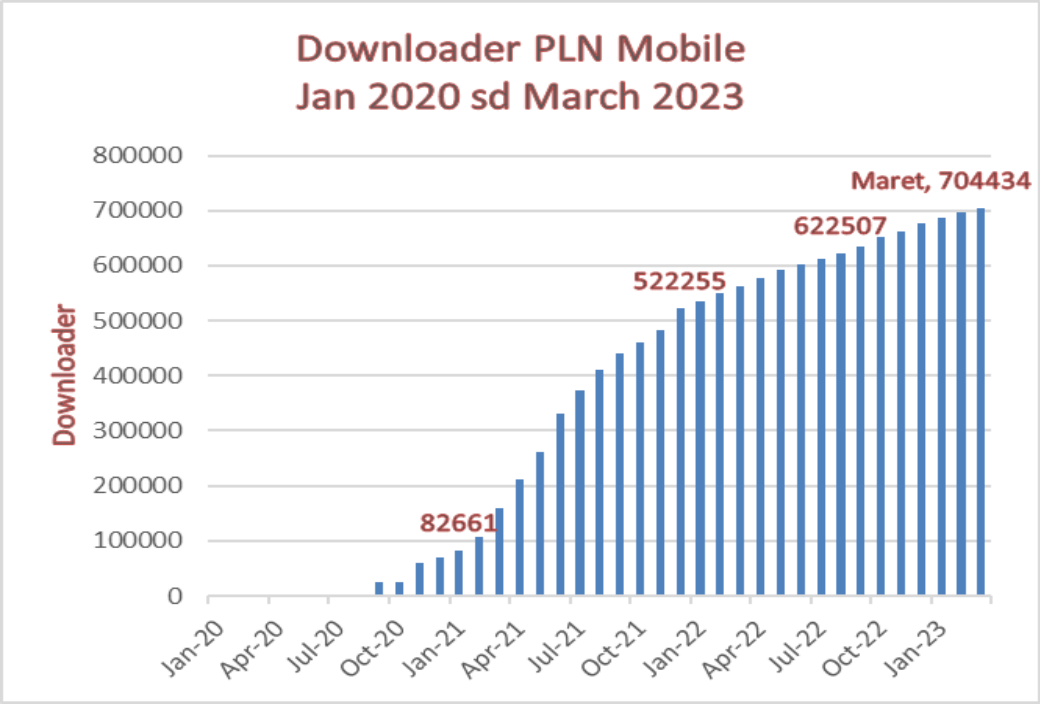
Perusahaan Listrik Negara (PLN) is a state-owned enterprise (SOE) engaged in providing electrical energy services in Indonesia. The number of PLN customers throughout Indonesia as of the end of 2022 is 85.27 million customers with electricity consumption per capita of 1,173 kwh

(Gatrik.esdm.go.id, 2022). Therefore, PLN has a duty to provide reliable, affordable, and sustainable electricity for the people of Indonesia and be able to provide the best service to the community from remote villages to big cities, by always prioritizing customer satisfaction through good service. With digital transformation, it will be very helpful in increasing the value of customer service. The customer service factor is the most dominant factor affecting customer satisfaction (Alemu Zemene & Tewedros Hiluf, 2019; Furwanti et al., 2022; Rasyid et al., 2020).

In order to implement the above, PLN carried out a transformation that began in April 2020 as an important milestone through 4 transformation pillars, namely Green, Lean, Innovative, and Customer Focused. Through the Green Aspiration, PLN continues to increase the use of renewable energy to generate electricity. With the Lean Aspiration, PLN ensures reliable and efficient electricity procurement. Meanwhile, with Innovative, PLN will expand new sources of revenue. Finally, Customer Focused will make PLN the number one choice of customers in energy solutions and achieve 100 percent electrification.

To improve service performance, PT PLN has tried to implement a customer-focused program that aims to help PLN become more focused on customer needs and wants, so that it can provide better and more satisfying services for customers (Wulan, 2011). PLN is also increasingly oriented towards customer satisfaction by making customer processes more integrated. One of them is by continuing to develop the PLN Mobile application to facilitate customers in enjoying PLN services. A graph of the growth in the number of New PLN Mobile application downloaders for the PT PLN (Persero) UID Sulselrabar work area can be seen in the following graph:

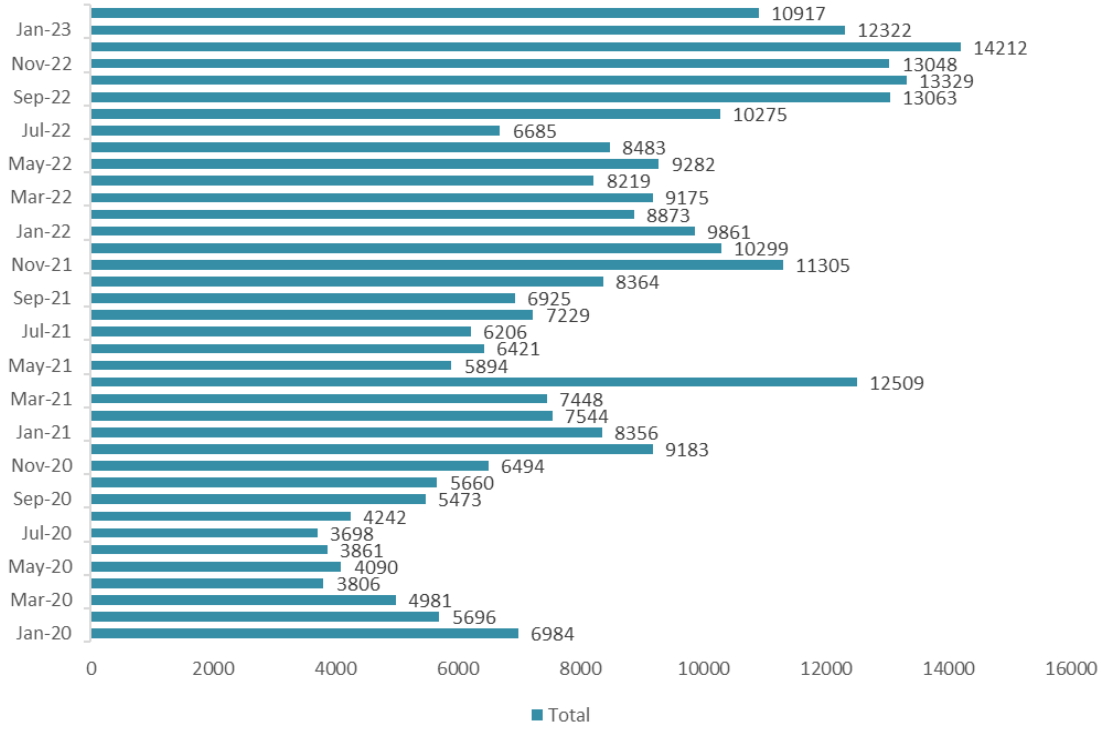
Figure 1 PLN Mobile Downloader Growth



Source: PLN (2023)

The increased number of downloads of the New PLN Mobile application also contributed to the increase in the number of user complaint reports. Where the majority of complaints submitted are related to disturbances such as power outages that interfere with user activities. Specifically at PLN UP3 Makassar Selata from January to February 2023 there were 310,412 complaints with an average monthly complaint of 8,168 times. The following statistical data is obtained from PT PLN UP3 Makassar Selatan regarding the frequency of user reporting:

Figure 2 Number of Disturbances of PLN South Makassar per Jan 2020-February 2023



Source: (PLN, 2023)

All of the reports of disturbances reported by PLN UP3 South Makassar, customers through various media including coming directly to the nearest PLN office, Call PLN 123, PLN Mobile, Facebook, Instagram, Twitter, etc. The number of customers who use the outage complaint feature on PLN Mobile is only 29% when compared to other reporting in the period January 2020 to February 2023.

Acceptance in an application of information technology is caused by many factors. Therefore, various studies have been conducted to create models that can and analyze the factors that influence the acceptance of information technology. One model that is widely used is the Technology Acceptance Model (TAM). TAM modeling introduced by Davis (1989) is an adoption of the Theory of Reason Action (TRA) and Theory of Planned Behaviour (TPB) by Fishbein & Ajzen (1975). which has the aim of seeing the level of acceptance of information technology using the variables perceived usefulness and perceived ease of use which are the basic determinants of user acceptance of information technology. These two perceptions will affect behavior intention (Fatma et al., 2023).

In this study, researchers will analyze what factors influence user interest in the outage complaint feature on PLN Mobile in the work area of PT PLN (Persero) UP3 Makassar Selatan. The method used to analyze these factors by the Technology Acceptance Model (TAM) framework.

LITERATUR REVIEW

The Technology Acceptance Model, hereinafter referred to as TAM, is an adaptation theory of TRA (Theory of Reasoned Action) which was previously introduced by Ajzen and Fishbein in 1980 and proposed by Davis in 1989. TRA is a theory that explains a behavior is carried out because individuals have the willingness or intention to do related activities that will be carried out on their own. do related activities that will be carried out of their own accord. TAM explains a causal relationship between a belief (the benefits of an information system and its ease of use) and behavior. Information system and ease of use) and behavior, needs and users of an information system. users of an information system. TAM aims to explain and estimate user acceptance of information system.

In TAM uses TRA because it is used as a basis for knowing the relationship between perceived usefulness and perceived ease of use on IT user interest (Information Technology). TAM is a theory that explains the perceptions of technology users. The user's perception will have an influence on the interest in using IT (Davis, 1989).

In the TAM model, the level of acceptance of IT use is determined by five constructs, namely, perceived ease of use, perceived usefulness, attitude toward using, behavioral intention to use, and real conditions. behavioral intention to use, and actual system usage. actual system usage (Davis, 1989). The TAM model has been widely developed by several contemporary researchers such as Granić & Marangunić, (2019), Kamal et al. (2020), Prasetya et al.(2022).

METHODOLOGY

This research will be conducted in the environment of PT PLN (Persero) UP3 Makassar Selatan. The sample in this study is PLN service users who live in the research object area. This research uses non-parametric quantitative research using descriptive analysis to measure the level of acceptance of New PLN Mobile technology, especially in the feature of reporting complaints of power outages using the TAM instrument. The data in this study were collected through online questionnaires distributed through various social media platforms.

The scale used in measuring technology acceptance of the power outage reporting feature on New PLN Mobile is a Likert 4 scale. The weights used are:

1 = Disagree / Never
2 = Disagree / Once
3 = Moderately Agree / several times (3-5 times)
4 = Strongly Agree / Often (more than 5 times)

Furthermore, the TAM framework used in this study refers to Davis (1989) TAM model with the following measurement indicators:

Table 1 Measurement Instrument

Variable	Code	Measures
Perceived Usefulness	PU01	New PLN Mobile app makes it easier for users to report electricity problems
	PU02	The app makes it easy for PLN to handle user complaints efficiently
	PU03	The New PLN Mobile application facilitates the exchange of information between users and managers (PLN) to restore electricity problems
Perceived Ease of Use	PEoU01	The power outage complaint reporting feature is easily accessible and found in the New PLN Mobile application.
	PEoU02	The power outage reporting feature in the New PLN Mobile applicatio is easy to use (not complicated).
	PEoU03	PT PLN (Persero) provides clear guideline show to use the power outage reporting feature available on the New PLN Mobile app.
Intention to Use	IU01	Intention to use the power outage reporting feature
	IU02	Intention to refer the power outage reporting feature
	IU03	Intention to use the feature if given the opportunity
Actual Use	AU01	Frequency of feature usage in a certain period
	AU02	Number of power outage reports successfully sent by the feature
	AU03	Consistency level of feature usage

Source: Authors (2023)

RESULT AND DISCUSSION

Before measuring the intention to use the power outage reporting feature of New PLN Application with the Technology Acceptance Model framework, researchers first analyzed the demographics of research respondents. this aims to strengthen and justify the results of the research discussion. Furthermore, this is the summary of the demographics of respondents in this study:

Table 2: Respondent's Characteristics

Base on Gender		110
Perempuan	76%	84
Laki- Laki	24,00%	26
Base on Ages		110
< 25 Years	14%	15
25-35 Years	46%	51
36 - 40 Years	23%	25
> 40 Years	17%	19
Base on Education		110
Junior high school	5,00%	5
Senior high school	37%	41
Undergraduate	41%	45
Post Graduate	17%	19
Base on Ability		110
Able to run the New PLN Mobile application independently	62%	68
Using the New PLN Mobile application with the help of others	48%	52

Source: Primary Data (2023)

After analyzing the characteristics of respondents, researchers measured Technology Acceptance of the power outage reporting feature on the New PLN Application. The following are the results:

Table 3 Descriptive Statistics

	N	Minimum	Maximum	Mean	Categories
PU01	110	2.00	4.00	2.9554	Good
PU02	110	2.00	4.00	3.2054	Excellent
PU03	110	2.00	4.00	3.2679	Excellent
PEoU01	110	2.00	4.00	3.0982	Excellent
PEoU02	110	2.00	4.00	3.1786	Excellent
PEoU03	110	2.00	4.00	3.3214	Excellent
IU01	110	3.00	4.00	3.2857	Excellent
IU02	110	1.00	4.00	2.9196	Good
IU03	110	2.00	4.00	3.2679	Excellent
AU01	110	1.00	4.00	2.9821	Good
AU02	110	1.00	4.00	2.9464	Good
AU03	110	1.00	4.00	2.7143	Good
Valid N (listwise)	110				

Source: Data Processed (2023)

Specifically, referring to Table 4, there are several analysis results as follows:

1. Perceived Usefulness of The Power Outage Reporting feature on the New PLN Application

   The perceived usefulness indicator with the highest average score is PU03 (The New PLN Mobile application facilitates the exchange of information between users and managers (PLN) to restore electricity problems). This indicates that PT PLN (Persero) especially in the UP3 South Makassar region to create synergy between users and technical implementers to solve various problems related to electricity disruption by utilizing The Power Outage Reporting feature on the New PLN Application.

   The indicator that must receive special attention is PU01 (New PLN Mobile app makes it easier for users to report electricity problems) because it has the lowest score. This is because users of this application have different characteristics and backgrounds. Where there are still many users who have not mastered the use of this application (Table 3), namely 48% of users can only apply this application with the help of others. This clearly indicates that there is a need for improvement of the existing system so that it can be more accessed by users independently in order to benefit from the efficiency and effectiveness of self-service through the New PLN Mobile app.

2. Perceived Ease of Use of The Power Outage Reporting feature on the New PLN Application

   Perceived ease of use indicator with the highest average score is PEoU03 (PT PLN (Persero) provides clear guidelines on how to use the power outage reporting feature available on the New PLN Mobile app). This is a strength for PT PLN UP3 seeing that the characteristics of PLN users in this region are mostly categorized as educated (Table 3) seeing that the majority of samples in this study have a bachelor's degree. Thus, they have good reason maturity, so that, it is not difficult for them to follow the guidelines for using New PLN Mobile specifically on the power outage reporting feature.

   While perceived ease of use indicator with the lowest average score is PEoU01 (The power outage complaint reporting feature is easily accessible and found in the New PLN Mobile application). This indicator must receive special attention, where the finding on this paper suggest to PT PLN UP3 pays attention and manages customer complaints by using Artificial Intelligence such as customer service chat features that are responsive and can be accessed 24 hours. In addition, it is recommended to accommodate customer complaints and create a database of these complaints.

3. Intention to Use of The Power Outage Reporting feature on the New PLN Application

   Intention to Use indicator with the highest average score is IU01 (Intention to use the power outage reporting feature). This is a strength for PT PLN UP3 seeing that the characteristics of PLN users in this region are mostly categorized as capability on technology (Table 3) show that the majority of samples in this study able to run the New PLN Mobile application independently. Thus, they have an ability to use this application can be more flexible to use the features available, especially the power outage reporting feature.

   While the perceived ease of use indicator with the lowest average score is IU02 (Intention to refer the power outage reporting feature). This indicator must receive special attention. Where New PLN Mobile application users who refer to other users can provide benefits (Priansa Juni, 2017) for PLN to get free marketing if they are able to build good relationships with their customers (especially those who use the New PLN Mobile application). Thus, it is recommended to PLN UP3 to empower consumers by providing a forum for rating customer experiences while using the application offered by PLN such as creating discussion forums or managing social media well and interestingly to attract consumers to share their positive experiences with PLN.

4. Actual Use of The Power Outage Reporting feature on the New PLN Application

   Actual Use indicator with the highest average score is AU01 (Frequency of feature usage in a certain period). This is a strength for PT PLN UP3 seeing that the characteristics of PLN users in this region are mostly categorized base of ages (Table 3) show that the majority of samples in this study about 25-35 years old. It means that range of productive ages. Furthermore, these categories fulfil with activities that rely on technological assistance that cannot be separated from the need for electricity. Thus, the biggest motivation to access power outage reporting feature on PT PLN UP3 is people of productive age are in dire need of electricity to help them with their productive activities.

   While the actual use indicator with the lowest score is AU02 (Number of power outage reports successfully sent by the feature). Thus, measuring the actual use of the Power Outage Reporting feature on the New PLN Application is not appropriate if it is based on how often someone sends the complaint (this is suitable for high-frequency transactions such as the banking service sector). This can be an input for future researchers when examining the same research object.

CONCLUSION

The results of these findings are the basis for providing advice to PT PLN UP3 region to provide training to users of the New PLN Mobile app to understand the benefits of using the Power Outage Reporting feature by providing online and offline workshops. This is expected to be an opportunity for PLN in creating positive perceptions (usefulness and ease to use) of New PLN Mobile app users which is the first step in empowering PLN consumers. Furthermore, PLN UP3 have to empower their consumers by providing a forum for rating customer experiences while using the application offered by PLN such as creating discussion forums or managing social media well and interestingly to attract consumers to share their positive experiences with PLN. Other findings in this study, specifically to Number of power outage reports successfully sent by the feature as one of actual use indicator is not appropriate if it is based on how often someone sends the complaint (this is suitable for high-frequency transactions such as the banking service sector). This can be an input for future researchers when examining the same research object.

REFFERENCES

Alemu Zemene, D., & Tewedros Hiluf, B. (2019). The Influence of Waiting Lines Management on Customer Satisfaction in Commercial Bank of Ethiopia. *Financial Markets, Institutions and Risks*, *3*(3), 5–12. https://doi.org/10.21272/fmir.3(3).5-12.2019

Buhalis, D., & Spada, A. (2000). Destination Management Systems: Criteria for Success — An Exploratory Research. In *Information and Communication Technologies in Tourism 2000*. https://doi.org/10.1007/978-3-7091-6291-0_43

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319–340.

Fatma, N., Alimuddin, M., & Latiep, I. F. (2023). *Manajemen Pemasaran Era Industri 4.0*. Nas Media Pustaka.

Fishbein, M., & Ajzen, I. (1975). Chapter 1. Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. In *Reading, MA: Addison-Wesley*.

Furwanti, R., Haryono, S., & Lestari, D. M. (2022). The Integration of Waiting Line Management Concept, Service Fairness and Customer Behavioural Intention in Sharia Bank. *Annual International Conference on Islamic Economics and Business (AICIEB)*, *2*(1), 1–13.

Gatrik.esdm.go.id. (2022). *The number of PLN customers*.

Granić, A., & Marangunić, N. (2019). Technology acceptance model in educational context: A systematic literature review. *British Journal of Educational Technology*, *50*(5), 2572–2593.

Kamal, S. A., Shafiq, M., & Kakria, P. (2020). Investigating acceptance of telemedicine services

through an extended technology acceptance model (TAM). *Technology in Society*, *60*, 101212.

PLN. (2023). *Statistic PT. PLN (Persero)*.

Prasetya, R. W., Rizky, Y., & Hasibuan, S. (2022). *Tinjauan Pustaka Sistematik Implementasi Technology Acceptance Model (TAM) dalam Organisasi Abstrak*. *4*, 102–114.

Priansa Juni, D. (2017). Komunikasi Pemasaran Terpadu: Pada Era Media Sosial. In *Marketing Communication*.

Rasyid, M., Galela, R., & Buru, U. I. (2020). *Analisis Kualitas Pelayanan Listrik Terhadap Kepuasaan*. *1*(April).

Steinhoff, L., & Palmatier, R. W. (2021). Commentary: Opportunities and challenges of technology in relationship marketing. *Australasian Marketing Journal*, *29*(2), 111–117. https://doi.org/10.1016/j.ausmj.2020.07.003

Varlamova, J., Larionova, N., & Zulfakarova, L. (2020). Digital Technologies and Saving Behavior. *Proceedings of the International Scientific Conference "Far East Con" (ISCFEC 2020)*, *128*(Iscfec), 1661–1667. https://doi.org/10.2991/aebmr.k.200312.229

Wulan, S. (2011). Analisis Kualitas Pelayanan Terhadap Kepuasan Pelanggan Pada Pt. Perusahaan Listrik Negara (Persero) Cabang Tanjungkarang Analysis of Service Quality on Customer Satisfaction At National Electric Company (Limited) Branch Tanjungkarang. *Jurnal Manajemen dan Bisnis*, *1*(2), 161–187.