NEW PLN MOBILE INNOVATION: TECHNOLOGY ACCEPTANCE MODEL

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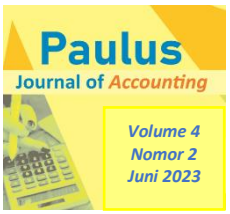

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Abstrak: Penelitian ini bertujuan untuk mengukur sejauh mana penerimaan masyarkat terhadap inovasi terbaru New PLN Mobile berbasis SwaCam Technology. Penelitian ini merupakan penelitian kuantitatif dengan menggunakan metode regersi linier sederhada dan regresi linier berganda. Di mana sampel pada penelitian ini adalah masyarakat yang menggunakan jasa PLN yang berdomisili pada wilayah Sulawesi Selatan, Sulawesi Tenggara, dan Sulawesi Barat. Data dikumpulkan menggunakan kuesioner oline yang disebar melalui berbagai platform media sosial. Lebih lanjut, hasil penelitian menunjukkan *Perceived Usefulness and Perceived Ease of Use* berpengaruh signifikan terhadap *Attitude Towards Using*. Selanjutnya, secara simultan, *Perceived Usefulness and Perceived Ease of Use* berpengaruh signifikan terhadap *Attitude Towards Using*. Kemudian, *Attitude Toward Using* berpengaruh signifikan terhadap *Acceptance of SeaCam Technology.* Pada akhirnya, secara simultan, *PU, PEoU, ATU* berpengaruh signifikan terhadap *Acceptance of SeaCam Technology.*

Abstract: This study aims to measure the extent of public acceptance of the latest innovation of New PLN Mobile based on SwaCam Technology. This research is a quantitative study using simple linear regression and multiple linear regression methods. Where the sample in this study were people who used PLN services who were domiciled in the South Sulawesi, Southeast Sulawesi and West Sulawesi regions. Data was collected using an online questionnaire distributed through various social media platforms. Furthermore, the results showed that Perceived Usefulness and Perceived Ease of Use have a significant effect on Attitude Towards Using. Furthermore, simultaneously, Perceived Usefulness and Perceived Ease of Use have a significant effect on Attitude Towards Using. Then, Attitude Toward Using has a significant effect on Acceptance of SeaCam Technology. In the end, simultaneously, PU, PEoU, ATU have a significant effect on Acceptance of SeaCam Technology.

INTRODUCTION

According to history, the world has gradually undergone an industrial revolution. The era of industrial revolution 1.0 began with the invention of the steam engine used in the production of goods. Then the 2.0 era was marked by the discovery of electric power which over time the steam engine was used to generate electricity and the discovery of electric motor drives. While the era of the industrial

revolution 3.0 began with the discovery of driving machines that could work automatically, such as robots and computers.

Nowadays, the internet and smartphones have become a necessity in everyday life (Prasetyohadi & Suryani, 2022). Connectivity and interaction in cyberspace have become commonplace for almost all levels of society. As time goes by, technology is being developed infinitely. That is why technology is getting more sophisticated in providing convenience for human life (Furwanti et al., 2022). In addition, technological advances can also be utilized through various fields, including to facilitate the business process of a company. The presence of devices such as smartphones is one of the important factors in supporting the use of the internet. Smartphones can be a place for companies to maximize business processes through various existing features. This can be used by companies to provide quality services online.

Digital transformation is closely related to the industrial revolution 4.0. Digital transformation is a process implemented by an organization or company to integrate digital technology in all business areas, by fundamentally changing the way the organization provides value to customers(Kusuma & Rahim, 2021; Nurfityani & Sukresna, 2022). Since April 2020, PT PLN (Persero) has carried out the Transformation program as an important step for the company, through four transformation pillars, namely Green, bringing Indonesia to transition to large-scale renewable energy quickly and efficiently; Lean, providing electricity services for households, businesses and industries that are lean, reliable at the lowest cost; Innovative, driving growth through innovative business models; and Customer Focus, satisfying consumers with world-class service.

Social media is currently a very popular medium for expressing opinions by people in Indonesia(Roni Herison et al., 2022; Tambunan & Hapsari, 2021). Through social media users can easily express their experience of a product, one of which is the New PLN Mobile application from PT PLN (Persero). The application is a digital platform to meet various customer needs related to electricity services. The New PLN Mobile application is one of the innovations in digital transformation carried out by PT PLN (Persero) and is in line with the PLN Transformation program on one of its pillars, namely Customer Focus. 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 The Number of downloader growth per month

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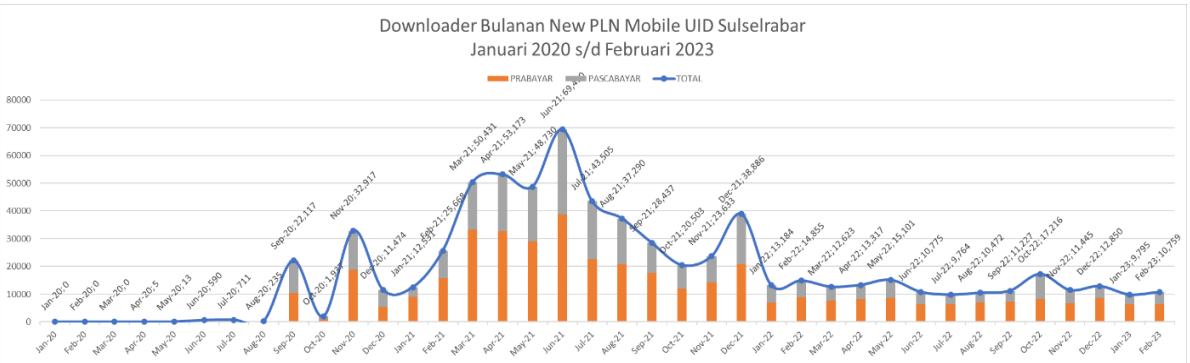


Source: PLN, (2023)

Based on data at PT PLN (Persero) UID Sulselrabar, the unit used as a case study, the current total number of customers is 3,717,895 customers consisting of 2,147,959 prepaid customers or equivalent to 57.8% and as many as 1,569,936 postpaid customers or equivalent to 42.2%. Of the total customers, 695,579 customers, equivalent to 18.7% of the total customers, have downloaded the New PLN Mobile application with 406,362 prepaid customers, equivalent to 58.4% of the total downloaders

or 18.9% of the total prepaid customers and 289,217 postpaid customers, equivalent to 41.6% of the total downloaders or equivalent to 18.4% of the total postpaid customers(PLN, 2023).

During the PLN mobile application used, no one has conducted an evaluation and analysis of the level of level of user acceptance of the PLN mobile application. Meanwhile, it is very important to know whether PLN mobile can be accepted by the community, especially Makassar city as a means of online information services and what factors affect user acceptance of the PLN mobile application.

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 (Ajzen & Fishbean, 1980) which aims to see 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.

In this study, researchers will analyze what factors influence user interest in SwaCam technology in the New PLN Mobile application in the PT PLN (Persero) UID Sulselrabar working area. The method used to analyze these factors is the Technology Acceptance Model (TAM).

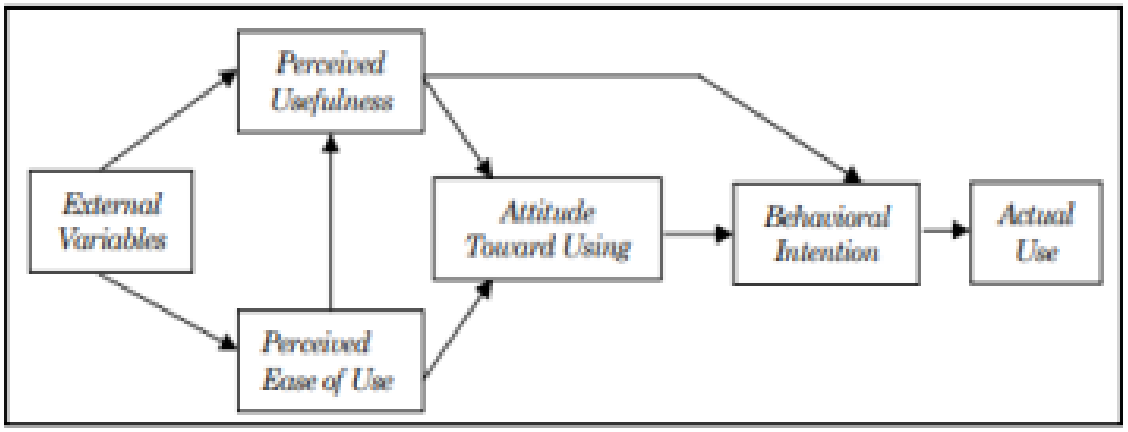
LITERATURE REVIEW

Technology Acceptance Model (TAM) TAM is an information systems theory that models how users come to accept and use a technology1. This theory was first introduced by Davis in 1986 and developed in 1989 as a model of user acceptance of an information system1. TAM explains a causal relationship between a belief (the benefits of an information system and its ease of use) and the behavior, needs and users of an information system.

TAM aims to explain and predict user acceptance of an information system. TAM provides a theoretical basis for knowing the factors that influence acceptance of a technology in an organization. TAM explains the causal relationship between beliefs (about the benefits of an information system and its ease of use) and the behavior, goals / needs, and actual use of users / users of an information system.

Penelitian ini mengembangkan TAM yang dikonstruk oleh Davis (1989) sebagai berikut:

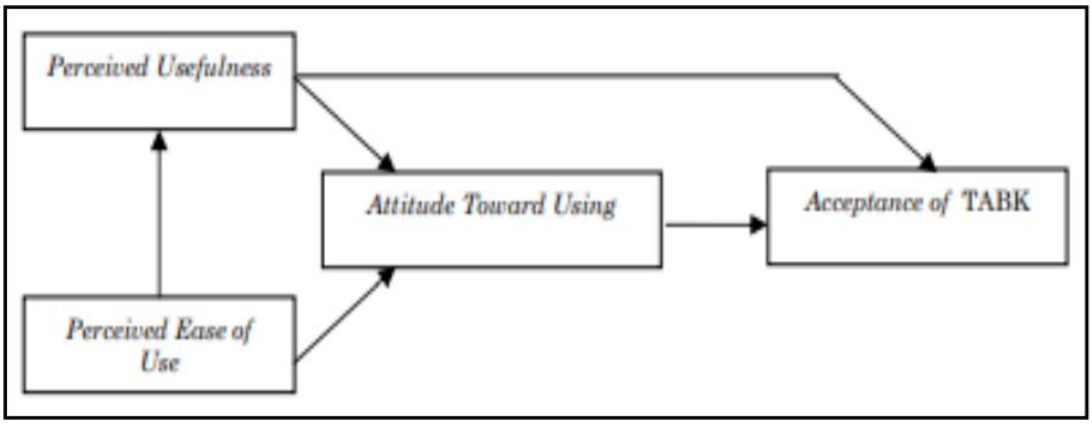
Figure 2 Model of TAM Davis



Source: Davis (1989)

Tidak hanya itu, Penelitian ini juga merujuk pada model TAM yang dikembangkan oleh Al- Gahtani (2021) sebagai berikut:

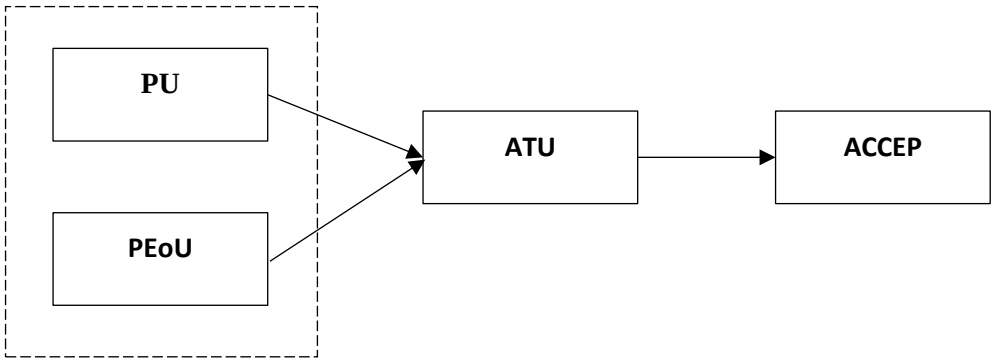
Figure 3 Model of TAM Al-Gahtani



RESEARCH METHODOLOGY

This research will be conducted on users of PT PLN Persero unit distribution of South Sulawesi, Southeast Sulawesi, and West Sulawesi. Where the sample in this study is PLN service users who are domiciled in the work environment in PLN. Furthermore, this research is quantitative research using multiple linear regression analysis tools. The data in this study were collected using online questionnaires distributed through various social media platforms. The following is the model in this study:

Figure 4 The Purpose Model



* *PU (Perceived Usefulness*), PeoU (*Percaive Ease of Use*), ATU (*Attitude Toward Using*) and ACCEP (*Acceptance of SwaCam*)

Based on the purpose model in this study (Figure 4), here the hypotheses will be proven in this study

H1: Perceived Usefulness has a significant effect on Attitude Towards Using

H2: Perceived Ease of Use has a significant effect on Attitude Towards Using

H3: Simultaneously, Perceived Usefulness and Perceived Ease of Use have a significant effect on Attitude Towards Using

H4: Attitude Toward Using has a significant effect on Acceptance of SeaCam Technology

H5: Simultaneously, PU, PEoU, ATU have a significant effect on ACCEP

Furthermore, to answer the research hypothesis, the following researchers include mathematical formulas using a combination of simple linear regression models and multiple linear regression models

$ATU = \beta 0 + \beta 1PU + \varepsilon 1$ (1)

$ATU = \beta 0 + \beta 2PEoU + \varepsilon 2$ (2)

$ATU = \beta 0 + \beta 1PU + \beta 2PeoU + \varepsilon 3$ (3)

$ACCEP = \beta 0 + \beta 03ATU + \varepsilon 4$ (4)

$$ACCEP = \beta0 + \beta1PU + \beta2PeoU + \beta3ATU + \varepsilon5 \quad (5)$$

RESULTS AND DISCUSSION

Table 1 Output Model (1)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.212	.710		5.936	.000
	PU	.805	.031	.787	25.670	.000

a. Dependent Variable: ATU

Source: Data Processing (2023)

Refers to Table 1, the mathematical calculation results can be formulated as follows:

$$ATU = 4{,}212 + 0{,}805PU \quad (6)$$

The PU coefficient shows a positive number, which means that PU has a positive effect on ATU. Furthermore, the significance value shows an angle <0.05 so it can be concluded that PU has a significant positive effect on ATU. This result is in accordance with the hypothesis (H1). This means that the higher the PU, the higher the ATU. This result is in line with previous research which reveals that the perceived ease of a technology can make it easier for someone to use technology (Aditya, 2022; Huddin & Masitoh, 2021). It is recommended to PT PLN to update the application so that it can accommodate the SwaCam technology system which is useful for accurately verifying user identity. Furthermore, it is necessary to pay attention to the capacity of the cellphone camera used by customers. It is also recommended to PLN to provide socialization or training on the use of SwaCam by highlighting the benefits that can be obtained if using this system, namely the SwaCAM feature makes recording electricity meters more practical, because there is no need to wait for officers to come to the house every month. The existence of SwaCAM makes the electricity billing process more transparent, because customers themselves provide electricity usage reports.

Table 2 Output Model (2)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.935	.827		2.340	.020
	PEoU	.888	.036	.775	24.746	.000

a. Dependent Variable: ATU

Source: Data Processing (2023)

Refers to Table 2, the mathematical calculation results can be formulated as follows:

$$ATU = 1{,}953 + 0{,}888PU \quad (7)$$

The PEoU coefficient shows a positive number, which means that PU has a positive effect on ATU. Furthermore, the significance value shows an angle <0.05 so it can be concluded that PEoU has

a significant positive effect on ATU. This result is in accordance with the compiled hypothesis (H2). This means that the higher the PEoU, the higher the ATU. User acceptance of a technology is strongly influenced by perceived ease and perceived usefulness which creates an attitude of acceptance and then interest in using behavior so that it shows real use of the system in the form of time intensity of use(Aditya, 2022; Mahesa & Rahardja, 2012; Mariani et al., 2019; Nurfityani & Sukresna, 2022; Sahadani & Salleh, 2014). When a technological innovation can make it easier for someone, that person will feel valuable non-financial benefits such as providing time efficiency by doing self service (Huddin & Masitoh, 2021; Tambunan & Hapsari, 2021). Thus, SwaCam technology needs to pay attention to the duration of time used to verify oneself in order to speed up the process of completing transactions through New PLN Mobile.

Table 3 Output Model (3)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4367.350	2	2183.675	574.805	.000[b]
	Residual	1538.589	405	3.799		
	Total	5905.939	407			

a. Dependent Variable: ATU

b. Predictors: (Constant), PU, PEoU

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.936	.697		-1.342	.180
	PEoU	.524	.038	.457	13.700	.000
	PU	.501	.034	.489	14.656	.000

a. Dependent Variable: ATU

Source: Data Processing (2023)

Refers to Table 3, the mathematical calculation results can be formulated as follows:

ATU = 1,953 + 0,501PU + 0,524PeoU (8)

The PU and PEoU coefficients show positive numbers, which means that PU and PEoU significantly have a positive effect on ATU. Furthermore, the significance value in the Anova table shows <0.05, so it can be concluded that PU and PEoU simultaneously have a significant positive effect on ATU. This result is in accordance with the compiled hypothesis (H3). This means that the higher the PU and PeoU, the higher the ATU.

Table 4 Output Model (4)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.419	.751		9.882	.000
	ATU	.717	.033	.730	21.492	.000

a. Dependent Variable: ACCEP

Source: Data Processing (2023)

Refers to Table 3, the mathematical calculation results can be formulated as follows:

ACCEP = 7,419 + 0,717ATU (4)

The ATU coefficient shows a positive number, which means that ATU has a significant positive effect on ACCEP. Furthermore, the significance value shows an angle <0.05 so it can be concluded that ATU has a significant positive effect on ACCEP. This result is in accordance with the compiled hypothesis (H4). This means that the higher the ATU, the higher the ACCEP.Koefisien ATU menunjukkan angka positif yang berarti ATU secara signifikan berpengaruh positif terhadap ACCEP.

Table 5 Output Model (5)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3694,672	3	1231,557	247,504	.000[b]
	Residual	2010,267	404	4,976		
	Total	5704,939	407			

a. Dependent Variable: ATU

b. Predictors: (Constant), PU, PEoU

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.708	.800		4.637	.000
	PU	.532	.048	.529	11.005	.000
	PEoU	.116	.053	.103	2.196	.029
	ATU	.229	.057	.233	4.029	.000

a. Dependent Variable: ACCEP

Source: Data Processing (2023)

Refers to From Table 3, the mathematical calculation results can be formulated as follows:

ATU = 3,708 + 0,532PU + 0,116PeoU + 0,229ATU (8)

The coefficients of PU, PEoU and ATU show positive numbers, which means that PU, PEoU and ATU significantly have a positive effect on ACCEP. Furthermore, the significance value in the Anova table shows <0.05 so it can be concluded that PU, PEoU and ATU simultaneously have a significant positive effect on ACCEP. This result is in accordance with the compiled hypothesis (H5). This means that the higher the PU, PeoU, and ATU, the higher the ACCEP.

CONCLUSION

Refers to the results of the description above, it can be concluded that the existence of SwaCAM makes the electricity billing process more transparent, because customers themselves provide reports on electricity usage. The results of hypothesis testing show that Perceived Usefulness and Perceived Ease of Use have a significant effect on Attitude Towards Using. Furthermore, simultaneously, Perceived Usefulness and Perceived Ease of Use have a significant effect on Attitude Towards Using. Therefore, Attitude Toward Using has a significant effect on Acceptance of SeaCam Technology. Thus, simultaneously, PU, PEoU, ATU have a significant effect on ACCEP. This papers suggest to PLN to provide socialization or training on the use of SwaCam by highlighting the benefits that can be obtained if using this system, namely the SwaCAM feature makes recording electricity meters more practical, because there is no need to wait for officers to come to the house every month.

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