

The Effect of Perceived Usefulness and Perceived Ease of Use on Technology Usage and Its Impact on Technology Adoption of New PLN Mobile App: Study on PLN UP3 Banda Aceh Office Customer

Muhammad Surairi, Muhammad Adam, & Mukhlis*

Management Department, Universitas Syiah Kuala, Indonesia

DOI - <http://doi.org/10.37502/IJSMR.2025.8207>

Abstract

This research aims to evaluate the perceived usefulness and perceived ease of use associated with the technology adoption, specifically mediated by the technology usage of the New PLN Mobile app. The study's respondents consist of users/customers from the PLN UP3 Banda Aceh office. The sample was determined according to the requirements of Structural Equation Modeling (SEM), utilizing a formula that recommends 10 times the number of indicators. With a total of 18 indicators, this resulted in a sample size of 180 participants. A purposive sampling technique was employed for this study. The results indicated that in the direct effect analysis, both perceived usefulness and perceived ease of use positively influence technology usage. Additionally, perceived usefulness, perceived ease of use, and technology usage all contribute positively to technology adoption. Furthermore, the mediation analysis revealed that technology usage serves as a positive mediator for the effects of perceived usefulness and perceived ease of use on technology adoption, demonstrating its role as a partial mediator within the model.

Keywords: Technology Adoption, Technology Usage, Perceived Usefulness, Perceived Ease of Use

1. Introduction

In the digital age, information technology has become essential in various aspects of human life, particularly in public services. The State Electricity Company (PLN), Indonesia's electricity service provider, has embraced digital technology to enhance efficiency and convenience for its customers. One notable innovation is the New PLN Mobile app, designed to streamline customer access to PLN services such as bill payments, outage reporting, and electricity usage information. Despite the app's numerous beneficial features, its adoption poses challenges, as many customers have yet to fully utilize it for accessing PLN services. The relatively low adoption rate of this application in several regions, including Banda Aceh, may be influenced by factors such as perceived usefulness and the convenience experienced by users. The New PLN Mobile app has generally received a positive response from the public. To date, it boasts over 44 million registered users and holds an impressive satisfaction rating of 4.8 out of 5 on the Play Store. This high level of satisfaction reflects public trust in the New PLN Mobile, which likely impacts users' interest in adopting it. According to (Kotler et al., 2022), adoption is defined as an individual's decision to become a permanent user of a product. The adoption process involves mental steps starting from introduction to the final decision to

use the product continuously. In the context of the New PLN Mobile, this process influences customer decisions, such as whether they will continue to use the digital service or choose to stop using it. Our pre-survey results of 30 respondents showed that the average value of the adoption variable was 3.73. This value is higher than the threshold of 3.41, indicating that the application's performance is quite good. However, there are still indicators with lower average values, where respondents expressed a lack of interest in seeking further information about the New PLN Mobile.

The use of technology is always related to the needs of the user. If a technology is able to meet the needs of the user, then they tend to accept it. Fulfillment of these needs can encourage interest in using the technology. Therefore, it is important to understand the factors that influence individual acceptance of a technology in order to increase its level of acceptance. Trust has a positive relationship with technology usage. The higher the user's trust in technology, the higher the level of usage. Conversely, low levels of trust can lead to decreased usage. In our same pre-survey results, the technology usage variable showed an average value of 3.57, which is quite good ($3.57 > 3.41$). However, there are several indicators with low values, where respondents feel that the New PLN Mobile has not been fully able to increase their productivity. One of the important factors that influence technology adoption is Perceived Usefulness. According to (Cudjoe et al., 2015), Perceived Usefulness refers to customers' beliefs that using a technology can improve their performance. Positive Perceived Usefulness can increase user trust, thus encouraging them to adopt the technology. Perceived Usefulness refers to the extent to which individuals believe that using a particular application will increase productivity or add value to their lives. In the context of the New PLN Mobile, the benefits perceived can be in the form of ease of paying bills without having to come to the PLN office or knowing the latest information about PLN services. In our pre-survey with 30 respondents on the variable of Perceived Usefulness, the average value was 3.67 with a good category ($3.67 > 3.41$). However, there are still indicators that have low values where the New PLN Mobile has not saved time in transactions.

The next factor that influences technology adoption is perceived ease. Perceived ease is the extent to which individuals believe that using a particular application does not require a great deal of effort. User-friendly interface design, intuitive navigation, and adequate technical support are important factors that influence this ease. If the New PLN Mobile is considered complicated, users will likely be reluctant to use it. Our initial survey results reveal the overall Perceived Ease of Use is good with an average value of 3.56 ($3.56 > 3.41$). However, there are still indicators that are less than optimal where respondents still have difficulty operating the New PLN Mobile. The Technology Acceptance Model (TAM) explains that perceived usefulness and perceived ease of use are two main factors that influence a person's intention to use new technology. In this context, positive perceptions of the benefits and ease of use of the New PLN Mobile can increase its adoption. Additionally, the technology usage of the New PLN Mobile does not only have an impact on PLN's operational efficiency but also on customer experience. Wide adoption can reduce the workload of PLN offices, increase service transparency, and provide a more satisfying experience for customers. However, this impact can only be achieved if the application is used optimally. This study focuses on the influence of Perceived Usefulness and convenience on the level of use of the New PLN Mobile at the PLN UP3 Banda Aceh office. In addition, the study will also evaluate the impact of using this application on service efficiency and customer satisfaction. This research is important to

provide a deeper understanding of the factors that influence technology adoption in the public service sector. The results of the study are expected to be a reference for PLN in improving marketing strategies and developing the New PLN Mobile to better suit customer needs. PLN UP3 Banda Aceh has diverse customer characteristics, ranging from household customers to business customers. Therefore, perceptions of this application may vary depending on the needs and preferences of each customer segment. This study will examine these perceptions specifically in the context of Banda Aceh.

2. Literature

Adoption

According to (Rohmah et al., 2022), adoption refers to the process carried out by individuals towards an innovation, starting from the introduction stage, acceptance, to implementation in decision-making, either in the form of a decision to accept or reject the innovation. Research on technology adoption has become a common approach to understanding user behavior towards technology (Ispriandina & Sutisna, 2019). Furthermore, (Hidayat et al., 2020) explain that technology adoption is the desire of individuals or groups to utilize technology as a tool that supports various user or consumer activities. Technology adoption refers to the process by which individuals, groups, or organizations accept and begin to use a technological innovation to support their activities. This process involves several stages, starting from introduction, evaluation of benefits, acceptance, and continued use. Factors such as ease of use, Perceived Usefulness, and trust in the technology greatly influence the decision to adopt. Technology adoption is often studied in various fields, especially to understand how new technologies are accepted and integrated into everyday life or the work environment. According to the Technology Acceptance Model (TAM), technology adoption is influenced by the Perceived Usefulness and convenience felt by users. If users believe that the technology can increase efficiency and productivity, and is easy to use, then the chances of adoption will be higher. However, technology adoption can also be influenced by social, cultural, and environmental factors, such as support from the work environment, access to technology, and trust in data security or privacy. Understanding the processes and factors that influence technology adoption is essential to help technology developers or providers design more effective strategies to increase acceptance of the technology. According to (Rohmah et al., 2022), the intention to adopt technology can be measured through the following indicators:

1. Interest in seeking information about technology, namely the user's drive to find out more about the technology they will use.
2. Focus on technology, which is the primary concern that users give to the new technology they use.
3. Desire to use technology in the future, namely the user's commitment to continue to utilize the technology sustainably.
4. Passion for technology, namely the user's belief and trust in the technology they use.

Technology Usage

Technology Usage behavior refers to the actual condition when someone uses a system. Users will be satisfied if they believe that the system is easy to use and can increase their productivity, which is seen from how the system is actually used (Park, 2009). Measurement of actual usage behavior involves aspects of the frequency and duration of time users interact with technology.

This behavior is assessed based on the amount of time spent and how often the technology is used. The use of technology refers to the actual activities of individuals, groups, or organizations in utilizing technological devices, applications, or systems to support various needs and activities. This use can cover various fields, from education, and business, to everyday life. The main factor that drives the use of technology is the ability of the technology to meet user needs in a more efficient, fast, and convenient way. In addition, the easier a technology is to use and the greater the benefits felt, the higher the likelihood that users will continue to use it in the long term. The use of New PLN Mobile technology is an innovative step taken by PT PLN (Persero) to provide easy service to customers. This application allows users to access various PLN services digitally, such as paying electricity bills, recording independent meters, reporting disturbances, and monitoring electricity information. With features designed to meet customer needs, New PLN Mobile is an important tool in increasing service efficiency while providing a better user experience. The use of this application not only saves customers' time and energy, but also helps PLN optimize operations by reducing the manual workload at the service office Usage indicators can be measured through four question items adapted from the (Indah & Agustin, 2019) model, which include:

1. Convenience in use, is marked by a feeling of joy because the technology is not difficult to use.
2. Increased productivity, where technology has been proven to help improve work efficiency.
3. Frequency and duration of use, namely how often the technology is used and how long users interact with it.
4. User preferences, are demonstrated by making the technology one of the favorite applications.

Perceived Usefulness

(Nurmalia & Wijayanti, 2018) stated that Perceived Usefulness is a perception of the benefits of an activity. From a person's perspective, an activity is said to be beneficial if the person can feel the positive impact of the activity. Perceived Usefulness refers to the belief of an individual or group that the use of a technology or innovation can provide benefits or added value in their activities. In the context of technology adoption, Perceived Usefulness is a very important factor because it influences a person's decision to use or ignore the technology. If individuals feel that the technology used can increase efficiency, save time, or provide better results, then they are more likely to adopt it. Conversely, if the benefits perceived are not clear enough or are not significant, individuals tend to be reluctant to use the technology. In many studies, Perceived Usefulness is often associated with the level of success of technology adoption. The greater the Perceived Usefulness, the higher the likelihood that the technology will be used sustainably. For example, using the New PLN Mobile, customers who find it easy to pay bills or report disruptions through this application will use it more often. Therefore, technology developers need to ensure that the applications or systems they offer provide real benefits to users, both in terms of convenience, efficiency, and quality of service, to ensure the successful adoption of the technology. The measurement items that are indicators of Perceived Usefulness according to (Wang & Li, 2016) are: working more quickly, job performance, increasing productivity, effectiveness, making a job easier, and useful.

Perceived Ease of Use

Public acceptance of technological developments is considered a change that can bring many benefits. According to (Ariffin et al., 2021), perceived ease of use can be interpreted as the extent to which someone believes that by deciding to use a system or technology, they will avoid excessive effort. This is in line with the opinion of (Indarsin & Ali, 2017) who stated that perceived ease of use is the level of a person's belief that the use of technology will reduce unnecessary effort. Based on the understanding of several previous studies, perceived ease of use (PEOU) can be explained as the level of individual belief that learning, utilizing, and using technology will make the process easier for users. Perceived ease of use refers to an individual's belief that using a technology or system does not require a great deal of effort. The easier a person feels it is to use a technology, the more likely they are to adopt and continue using it. Factors that influence perceived ease of use include intuitive user interface design, clear navigation, and adequate technical support. If a technology is perceived as complicated or time-consuming to learn, perceived ease of use will be low, which may reduce interest in using it. In the context of technology adoption, perceived ease of use is an important factor that influences users' decisions to continue using the technology. For example, if an application or system has a simple and easy-to-understand interface, users tend to feel comfortable and are reluctant to switch to other alternatives. Therefore, technology developers need to focus on improving ease of use to increase the adoption and success of the technology among users. This ease of use does not only include technical aspects but also how users interact with the system and feel supported in every step of using the technology. (Wang & Li, 2016) said that the indicators for measuring Perceived Ease of Use consist of:

1. Ease of operating the service
2. Ease of doing whatever you want
3. Ease of understanding the service clearly
4. Ease of mastering the service.

3. Method

In this study, the participants are customers of the PLN UP3 Banda Aceh office. The sample size was determined based on the requirements of Structural Equation Modeling (SEM), utilizing a formula of ten times the number of indicators. With a total of 18 indicators, this resulted in a sample of 180 respondents. A purposive sampling technique was employed for this selection. The data was processed using Amos software for direct effect tests, and Sobel calculator for mediation effect tests. Several hypotheses tested in this research are :

H1: significantly perceived usefulness affects technology usage

H2: significantly perceived ease of use affects technology usage

H3: significantly perceived usefulness affects technology adoption

H4: significantly perceived ease of use affects technology adoption

H5: significantly technology usage affects technology adoption

H6: significantly technology usage mediates the perceived usefulness effect on technology adoption

H7: significantly technology usage mediates the perceived ease of use effect on technology adoption

4. Result

The findings of the direct effect test using SEM-AMOS are presented in Table 1 below, and then the results will be explained per hypothesis.

Table 1. Standardized Regression

Influence		Estimate	SE	CR	P	R-Square
Technology Use	<--- Perceived Usefulness	0.720	0.098	9,922	***	0.680
Technology Use	<--- Perceived Ease of Use	0.154	0.053	2,615	,009	
Technology Adoption	<--- Perceived Usefulness	0.349	0.116	4,271	***	0.774
Technology Adoption	<--- Perceived Ease of Use	0.229	0.049	4,385	***	
Technology Adoption	<--- Technology Use	0.401	0.082	5,152	***	

Source: Processed Primary Data, (2024)

H1: Perceived Usefulness on Technology Usage

The Perceived Usefulness effect test on Technology Usage provides CR 9.922 with a significance 0.000, explaining that Perceived Usefulness significantly affects Technology Usage. The effect magnitude is 0.720 or 72.0%, which means increasing 1 unit of Perceived will increase 0.720 units of Usefulness Usage. The Perceived Usefulness of using the New PLN Mobile is very important in determining the use level of the application. When users feel that the application provides significant benefits, such as ease in paying electricity bills, accessing real-time electricity information, or reporting disruptions, they are more likely to use it regularly. Positive perceptions of benefits, such as time savings and efficiency in managing electricity bills or services, increase users' desire to continue using the application. With clear benefits felt by users, the application becomes a very useful tool in their daily lives, which encourages long-term use. In addition, high Perceived Usefulness also contributes to increased levels of user satisfaction, which in turn can increase user loyalty and retention. If customers feel that the New PLN Mobile helps them save time and make electricity-related matters easier, they are more likely to recommend the application to others, potentially expanding the application's user base. Therefore, application developers need to focus on continuously improving features that provide real benefits to users, to ensure that the application remains relevant and is used consistently in the long term. Furthermore, Perceived Usefulness also influences the adoption rate of the New PLN Mobile technology in a wider user segment. When early users feel satisfied and get real benefits from the application, they tend to recommend it to others, either directly or through reviews on digital platforms. This creates a domino effect that expands the application's user base. Thus, Perceived Usefulness not only influences the intensity of individual use but also contributes to the application's success in reaching more customers and supporting the overall digital transformation of PLN services.

H2: Perceived Ease of Use on Technology Usage

The Perceived Ease of Use effect test on Technology Usage provides CR 2.615 with a significance 0.009, explaining that Perceived Ease of Use significantly affects technology Usage. The effect magnitude is 0.154 or 15.4%, which means that increasing 1 unit of Perceived Ease of Use, will increase 0.154 of technology Use. The perceived ease of use on the New PLN Mobile is essential, because this ease is the main factor that determines how often and how long users will interact with the application. If users feel that the application is easy to use, with an intuitive interface and clear navigation, they tend to use the application more routinely. The ease of accessing various features, such as bill payments, checking electricity usage, or reporting disruptions, makes users feel more comfortable and efficient in making transactions or getting PLN services. Therefore, a design that simplifies the user experience will increase the adoption and use of the application. In addition, perceived ease of use can also affect user satisfaction with the application. Users who feel that the application does not require excessive effort or time to learn or use will be more likely to use it in the long term. Conversely, if users feel that the application is complicated or requires many steps to complete a particular task, they may reduce the frequency of use or even switch to other alternatives. Therefore, it is important for New PLN Mobile developers to continue to pay attention to the aspect of ease of use, ensuring that each update or addition of features maintains a high level of ease of use in order to increase user retention and satisfaction. Furthermore, high perceived ease of use also increases customer trust and loyalty towards the New PLN Mobile. Users who feel that the application is not only easy to use but also reliable will recommend it more often to family or friends. With this increased level of satisfaction and loyalty, PLN can expand the application's user base while supporting its digital transformation agenda. Thus, perceived ease of use not only influences an individual's decision to use the application but also plays a significant role in the application's long-term success in the market.

H3: Perceived Usefulness on Technology Adoption

The Perceived Usefulness effect test on Technology Adoption provides CR 4.171 with a significance 0.000, which describes that Perceived Usefulness significantly affects technology Adoption. The effect magnitude is 0.349 or 34.9%, which means that increasing 1 unit of Perceived Usefulness, will increase 0.349 units of Technology Adoption. Perceived Usefulness plays an important role in the adoption process of the New PLN Mobile, because the greater the benefits perceived by users, the more likely they are to adopt and continue using the application. If users believe that the application provides significant benefits, such as ease of bill payment, more transparent monitoring of electricity usage, or ease of reporting power outages, they will be more likely to adopt it. Positive Perceived Usefulness, such as time efficiency and increased convenience, encourages users to integrate the application into their routines, thereby increasing the adoption rate of the application among users. In addition, Perceived Usefulness also influences users' willingness to recommend the application to others, which can accelerate the adoption of the application among new users. When users feel that the application provides clear added value and helps them in their daily activities, they will feel more confident in adopting the technology. Therefore, it is important for New PLN Mobile developers to continue to improve features that provide real benefits to users, ensuring that every update made remains in line with user needs and expectations, to support wider and sustainable adoption. Furthermore, Perceived Usefulness also plays a role in building user loyalty and trust in the application. When the application provides real solutions to customer

needs, such as reducing costs or time in accessing PLN services, users will be more likely to recommend it to others. As a result, the adoption of the New PLN Mobile not only increases among individuals but also spreads socially through network effects. By continuing to strengthen the benefits perceived by users, PLN can ensure that the adoption of this application becomes the foundation for the success of the company's digital transformation.

H4: Perceived Ease of Use on Technology Adoption

The Perceived Ease of Use effect test on Technology Adoption provides CR 4.385 with a significance 0.000, explaining that Perceived Ease of Use significantly affects Adoption. The effect magnitude is 0.229 or 22.9%, which describes that increasing 1 unit of perceived ease of use will increase 0.401 units of technology adoption. Perceived ease of use has a significant influence on the adoption of the New PLN Mobile, because the ease factor is often the main consideration for users in deciding to adopt a technology. If the application is designed with an intuitive interface, simple navigation, and a simple usage process, users will feel more comfortable and faster in using it. The easier the application is to use, the more likely users are to adopt it. This perceived ease of use can also increase user satisfaction, which in turn strengthens their intention to continue using the application in the long term. In addition, high perceived ease of use can reduce potential barriers to adoption, such as fear of technology or uncertainty in using the application. Users who feel that the New PLN Mobile does not require excessive effort or time to learn or use will be more likely to adopt it immediately. With a smooth and simple user experience, the application will be more easily accepted by a wide range of users, including those who are not very experienced with technology. Therefore, to support wider adoption, application developers must continue to ensure that the application remains easy to use, by considering user needs and preferences in every update or feature addition. Furthermore, perceived ease can also drive user trust and loyalty towards the New PLN Mobile. Users who have a positive experience tend to recommend the application to others, creating a viral effect that accelerates adoption. In the context of digital service competition, ease of use is an important differentiating factor. By ensuring that the application provides a smooth and frictionless experience, PLN can drive successful digital transformation while meeting customer needs more effectively.

H5: Technology Usage on Technology Adoption

The Technology Usage effect test on Technology Adoption provides CR 5.152 with a significance 0.000, describing that technology Usage significantly affects technology Adoption. The effect magnitude is 0.401 or 40.1%, which describes that increasing 1 unit of technology usage will increase 0.401 units of technology adoption. The more frequently and consistently users use this application, the more likely they are to adopt it as part of their routine. Positive experiences during use, such as ease of access, transaction speed, and useful features, will encourage users to continue using it and even recommend it to others. With increasing frequency of use, users will become more familiar with the features of the application, which strengthens their intention to adopt this application permanently. A pleasant and useful experience will make the application a reliable solution for daily electricity needs. In addition, consistent use of the application can accelerate the adoption process because users will increasingly identify the application as an effective and efficient tool to meet their needs. Direct experience in using the application for various PLN services, such as bill payments or outage reporting, allows users to see firsthand the value offered by the application. If users are

satisfied with the results obtained from using this application, they are more likely to adopt it in the long term and continue to use it in their daily activities. Therefore, developers of the New PLN Mobile must continue to ensure that the usage of the application provides real benefits and improves the user experience so that the adoption of this application is wider and more sustainable. Consistent usage also allows users to understand the added value offered by the New PLN Mobile. Through repeated use, users can explore various features that they may not have utilized before, such as payment history or power outage information. This understanding can increase their perception of the benefits of the application, which ultimately encourages them to fully adopt the application as part of their lives. With this approach, PLN can ensure that their application is not only used, but also widely adopted by customers.

H6: Perceived Usefulness on Technology Adoption through Technology Usage

From the calculation of the Sobel test, the result is 4.070 with significance $0.000 < 0.05$. Thus, Technology Usage acts as a mediating variable between Perceived Usefulness and Technology Adoption. Furthermore, because Technology Usage is proven significant as a mediating variable, and Perceived Usefulness can directly significantly affect Technology Adoption, then the role of Technology Usage in mediating the Perceived Usefulness effect on Adoption is partially mediating. Partial means that Perceived Usefulness can affect Technology Adoption both directly and indirectly (through Technology usage).

Table 2. Perceived Usefulness Effect On Technology Adoption Through Technology Usage

Input:		Test statistic:		Std. Error:		p-value:	
a	0.720	Sobel test:	4.07090088	0.07092288	0.00004683		
b	0.401	Aroian test:	4.04501813	0.07137669	0.00005232		
s _a	0.098	Goodman test:	4.09728692	0.07046614	0.0000418		
s _b	0.082	Reset all	Calculate				

Perceived Usefulness has a significant influence on the adoption of the New PLN Mobile through the use of the application itself. When users feel that the application provides real benefits, such as ease in paying bills, monitoring electricity usage, or accessing customer service quickly, they are more likely to use it regularly. Direct experience that shows that the application can improve efficiency and save time will strengthen the perception that the application is useful, which in turn increases the intention to adopt it. Over time, with more frequent use and more benefits perceived, the adoption rate of the application will increase because users feel that the application is an important part of their lives. The influence of Perceived Usefulness on the adoption of the New PLN Mobile through use can also be seen in the increase in user loyalty. When users feel that the application provides real added value in their daily activities, they will feel more confident to continue using it and introduce it to others. Positive experiences in using the application strengthen the belief that this application does meet their needs, which encourages further adoption. Thus, high Perceived Usefulness, which is reflected through the experience of use, is an important factor in encouraging users to continue adopting and utilizing this application to the fullest.

H7: Perceived Ease of Use on Technology Adoption through Technology Usage

From the calculation of the Sobel test, the result is 2.497 with significance $0.012 < 0.05$. Thus, technology usage acts as a mediating variable between Perceived Ease and Adoption. Furthermore, because Technology Usage is proven significant as a mediating variable, and

Perceived Ease of Use can directly significantly affect Technology Adoption, then the role of Technology Usage in mediating the perceived ease of Use effect on Technology Adoption is partially mediating. Partial means that the Perceived Ease of Use can affect Technology Adoption both directly and indirectly (through Technology usage).

Table 3. Perceived Ease of Use Effect on Technology Adoption Through Technology Usage

Input:		Test statistic:	Std. Error:	p-value:
a	0.154	Sobel test: 2.49797975	0.02472158	0.01249033
b	0.401	Aroian test: 2.46025213	0.02510068	0.01388394
s _a	0.053	Goodman test: 2.53749801	0.02433657	0.0111648
s _b	0.082	Reset all	Calculate	

The influence of perceived ease of use on the adoption of the New PLN Mobile through technology usage is essential because the easier the application is to use, the more likely users are to adopt it. If users feel that the application has a simple interface, is easy to navigate, and is quick to use, they will interact with the application more often. This perceived ease of use increases the convenience and efficiency of users in making transactions, such as paying bills or reporting power outages, without having to experience difficulty or confusion. With more frequent use, users will find it easier to get to know the application's features and feel its benefits, which in turn encourages them to continue using it, thereby increasing the overall application adoption rate. In addition, perceived ease of use also plays a significant role in accelerating app adoption through consistent user experience. Users who perceive that an app is easy to use and does not require much effort to learn are more likely to adopt it as part of their routine. When users feel that there are no technical barriers to using an app, they are more likely to introduce the app to others, accelerating the adoption process among new users. In other words, perceived ease of use can increase the level of app usage, which then influences users' decisions to continue adopting the app in the long run. Therefore, it is important for developers to keep their apps easy to use, even with updates or new features added.

5. Conclusion

The results indicated that, in the direct effect test, both perceived usefulness and perceived ease of use positively influence technology usage. Additionally, perceived usefulness and perceived ease of use, along with technology usage, positively affect technology adoption. In terms of the mediation effect test, technology usage serves as a positive mediator between perceived usefulness and perceived ease of use in relation to technology adoption. Furthermore, it was evidenced that technology usage functions as a partial mediator in the two mediation models examined. These findings indicate that the model for enhancing technology adoption is shaped by both perceived usefulness and perceived ease of use, as well as actual technology usage. From an academic standpoint, these results provide a solid foundation for further exploration of the variables within the model. It is essential to acknowledge, however, that the research has certain limitations regarding its scope. On a practical level, these insights can be invaluable for research subjects, enabling them to apply this technology adoption model to improve their mobile application services in the future.

References

- 1) Ariffin, S. K., Rahma, M. F. R. A., Muhammad, A. M., & Zhan, Q. (2021). Understanding the consumer's intention to use the e-wallet services. *Spanish Journal of Marketing - ESIC*, 25(3), 446–461. <https://doi.org/10.1108/SJME-07-2021-0138>
- 2) Cudjoe, A. G., Anim, P. A., & Nyanyofio, J. G. N. T. (2015). Determinants of Mobile Banking Adoption in the Ghanaian Banking Industry: A Case of Access Bank Ghana Limited. *Journal of Computer and Communications*, 3(2), 1–19. <https://doi.org/10.4236/jcc.2015.32001>
- 3) Hidayat, M. T., Aini, Q., & Fetrina, E. (2020). Penerimaan Pengguna E-Wallet Menggunakan UTAUT 2 (Studi Kasus). *Jurnal Nasional Teknik Elektro Dan Teknologi Informasi*, 9(3), 239–246.
- 4) Indah, M., & Agustin, H. (2019). Penerapan Model Utaut (Unified Theory Of Acceptance And Use Of Technology) Untuk Memahami Niat Dan Perilaku Aktual Pengguna Go-Pay Di Kota Padang. *Jurnal Eksplorasi Akuntansi*, 1(4), 1949–1967. <https://doi.org/10.24036/jea.v1i4.188>
- 5) Indarsin, T., & Ali, H. (2017). Attitude toward Using m-Commerce: The Analysis of Perceived Usefulness, Perceived Ease of Use, and Perceived Trust: Case Study in Ikens Wholesale Trade, Jakarta – Indonesia. *Saudi Journal of Business and Management Studies*, 2(11), 995–1007.
- 6) Ispriandina, A., & Sutisna, M. (2019). Faktor-Faktor Penerimaan Teknologi Yang Memengaruhi Intensi Kontinuitas Penggunaan Mobile Wallet Di Kota Bandung. *Prosiding Industrial Research Workshop and National Seminar*, Vol 10, No 1, 1046–1055. <https://doi.org/10.35313/irwns.v10i1.1462>
- 7) Kotler, P., Keller, K. L., & Chernev, A. (2022). *Marketing Management* (16th ed.). Pearson Education.
- 8) Nurmalia, V. D., & Wijayanti, L. E. (2018). Pengaruh Persepsi Kemudahan dan Persepsi Kemanfaatan Terhadap Minat Beli Secara Online. *Jurnal Riset Manajemen Dan Bisnis*, 13(1), 69–76.
- 9) Park, S. Y. (2009). An Analysis of the Technology Acceptance Model in Understanding University Students Behavioral Intention to Use E-Learning. *Educational Technology and Society*, 12(3), 150–162. <https://www.jstor.org/stable/jeductechsoci.12.3.150>
- 10) Rohmah, A., Abiyyu, K. Y., Elisa, C., Nurasimah, Pasapan, N. L., Safika, Firdaus, M. N., & Permatasari, N. R. (2022). Adopsi Inovasi Layanan Online di Dinas Kependudukan dan Pencatatan Sipil Kota Samarinda. *Jurnal Komunikasi Pembangunan*, 20(1), 47–60. <https://doi.org/10.46937/20202239408>
- 11) Wang, Z., & Li, H. (2016). *Factors Influencing Usage of Third Party Mobile Payment Services in China: An Empirical Study*. Uppsala University.