



Comparative Analysis of Customer Acceptance of Digital Wallet Gopay, Dana and Ovo Using Unified Theory of Acceptance and Use of Technology

Frans Sudirjo^{1✉}, David Ahmad Yani², Amat Suroso³, Kadarsih⁴, Aulia Ar Rakhman Awaludin⁵

¹Universitas 17 Agustus 1945 Semarang

²IAIN Metro

³Universitas Bani Saleh

⁴Universitas Mahakarya Asia

⁵Universitas Indraprasta PGRI

frans-sudirjo@untagsmg.ac.id

Abstract

Finding out what variables affect users' acceptance of server-based electronic wallets is the goal of this study. A quantitative methodology is used in this investigation. Using a questionnaire, a survey was conducted in order to collect data. Users of server-based electronic wallets make up the study's population. The purposive sampling strategy was employed by the author in this study. It was successful for the author to get 100 responses. Statistical analysis and demographic analysis are the two subcategories of data analysis. Using IBM SPSS, the author first analyzed demographic data. Second, SmartPLS was used by the author to perform statistical analysis. The following are the factors that affect user approval, according to the research findings: The impact of effort depletion on behavioral intention is substantial. An important factor influencing behavioral intention is social influence. The impact of perceived trust anticipation on behavioral intention is substantial. Behavior intention is significantly impacted by perceived risk anticipation. Encouraging circumstances behavioral intention is significantly influenced by expectations. Use behavior is significantly impacted by facilitating situations. Behavioral intention is significantly impacted by habit. The way we utilize things is greatly influenced by our habits. The intention behind one's behavior greatly influences how they use things. In the meanwhile, performance expectation has no discernible impact on behavioral intention, and the following criteria do not influence user approval. There is no discernible impact of hedonic motivation on behavioral intention. On behavioral intention, price value has no discernible impact.

Keywords: User Acceptance, Electronic Wallet, Behavioral Intention, Server Based.

JSISFOTEK is licensed under a Creative Commons 4.0 International License.



1. Introduction

Due to the convenience and usefulness of the transactions provided by electronic wallet service providers, the use of electronic wallets for non-cash transactions is currently increasing. The rise of electronic wallets facilitates consumers' access to financial services and/or products. The advancement of information technology has made it possible for us to do financial transactions swiftly, simply, safely, and anywhere at any time. The majority of the time, people utilize electronic wallets to make payments more quickly that don't require cash. Additionally, customers can take advantage of a variety of deals [1]. The use of technology in the financial system that results in new goods, services, innovations in technology, and/or business models is known as electronic wallets. These innovations can affect the stability of the money supply, the stability of the financial system, and the effectiveness, smoothness, security, and dependability of payment systems. Currently, Bank Indonesia has regulations about electronic money that govern the usage of electronic wallets [2]. In Indonesia, there are two types of electronic wallet services: those that are chip-based and come in the form of physical cards with chips, such as eMoney Mandiri, Flazz BCA, Brizzi BRI, and Tap Cash BNI. Server-based electronic wallets, on the other hand, come in the form of mobile applications, such as GO-PAY, OVO, Dana, and LinkAja. Every kind of payment has benefits and drawbacks of its own [3].

Chip-based electronic wallet transactions are faster when used because you only need to tap the card and do not require an internet connection. Within three to seven seconds, the transaction will be successful. This makes the failure rate smaller. The use of fast transactions makes the use of chip-based cards more suitable for transactions through gates, outlets, or other physical devices [4]. However, chip-based electronic wallets have drawbacks, including that they are very dependent on the physical condition of the card. If the card chip is damaged and fails to be read, the transaction will fail, and when the card is lost, the stored funds are also lost [5]. This means users have to be more careful when storing them. On the other hand, when topping up your balance, chip-based electronic

wallets are required to carry out a balance update process at an ATM machine, certain outlets, or update it personally, provided that the user's smartphone supports the Near Field Communication (NFC) feature [6]. In contrast, server-based e-wallet transactions are slightly slower, and the risk of failure is higher as they depend on an internet connection. However, stored user funds are safer because they are stored on the server. So, even if the user's smartphone is lost or damaged, the user's funds will remain intact [7].

Server-based electronic wallet services require a smartphone and an internet network to use. Smartphone users in Indonesia continue to grow. In the last five years, smartphone users in Indonesia grew from 70 million in 2018 to 90 million in 2019 and 100 million in 2020. Every year, there are more people who use smartphones, and they have a habit of switching phones as new smartphone models come out, released annually by the vendor. Even though server-based electronic wallets are relatively new, their use has increased, namely from 2018 when the transaction value was more IDR 6 trillion, in 2019 when the transaction value was more than IDR 10 trillion, and in 2020 when it increased to more than IDR 45 trillion. As of March 2021, according to Bank Indonesia records, there were 36 publishers who had registered as publishers of server-based electronic wallets. Eleven publishers come from banking [8]. Meanwhile, the other 25 issuers are non-bank institutions. This is supported by previous research conducted in collaboration with JAKPAT and OJK, which stated that from 2018 to 2020, the use of server-based electronic wallets experienced an increase. Regarding what electronic wallet they use, of the 825 respondents who stated that they were server-based electronic wallet users, the largest user was GO-PAY, followed by OVO, T-Cash (now LinkAja), and DANA. However, in its implementation, server-based electronic wallets are still experiencing problems, including users experiencing problems in the form of loss of GO-PAY balances caused by technical problems, and they have already refilled OVO, but the customer's balance has not been increased [9].

The process of measurement creates an image in the form of numbers based on observations of various attributes of an item, person, or event. The opinion, which refers to precise guidelines and formulations, supports this claim by stating that measurement is the process of assigning numbers to specific qualities or attributes that a person or item possesses [9]. When it comes to these guidelines or formulas, experts must generally agree. User acceptance refers to how much a person wants to use a new system; the more accepted it is, the more inclined they are to use it. The willingness of a group of users to employ information technology to support their work is known as user acceptability. One of the biggest challenges to a new information system's successful installation is user apathy. In actuality, despite the fact that using the offered information system will benefit them, individuals frequently choose not to utilize it. As a result, it has been believed that one of the key elements in deciding whether an information system project is successful or unsuccessful is user acceptance [10].

An electronic wallet is a software application that allows users to store money digitally, make digital payments, and perform various types of cashless transactions. E-wallets have been described as a way to pay for things with a device such as a computer or cell phone. Electronic wallets are able to take the function of a physical wallet, with all its content and behavior, and integrate it into a digital device. Computers all over the world are connected by a physical network called the internet [11]. Information is stored and transferred between client computers and web servers via the communication channels and server network infrastructure that make up the internet itself. Whether the server-based electronic wallets currently in circulation are good or bad depends on the user side and the server-based electronic wallet service provider side. The first is from the user side, who is willing to accept continuing to use server-based electronic wallets in terms of the benefits they get and the shortcomings they feel. The second is from the side of the server-based electronic wallet service provider, whether they will change the existing shortcomings (for example, customers experience no balance when topping up) and continue to improve their application to increase the benefits for their users by adding features that support the needs of their users, regarding server-based electronic wallets [12].

After implementing a server-based electronic wallet, it is important to know the extent of success of the server-based electronic wallet that has been implemented. User acceptability is one of the key elements that determines if a system is implemented successfully, whether a new system is accepted or rejected by the user. Because some system implementations are successful and others are not, the implementation process is unpredictable in the interim [12]. Some stakeholders may see a certain system as successful, while others may see it as unsuccessful. It becomes challenging to precisely classify a system because most of them can be measured from several angles and satisfy the needs of their users. However, it must also be categorized as fragile because it can either fail or succeed. According to the previous explanation, an instrument is required to measure this in order to determine the components that determine user acceptability of a system. The Unified Theory of adoption and Use of Technology model, or UTAUT, is one that is frequently used to gauge how much user adoption of electronic wallets there is [13]. It is a well-known user acceptance model that is frequently used in studies on how well users embrace information technology that is more focused on the context of the consumer. This methodology is used to gauge

how well a technology that is more focused on the consumer context is accepted and used. UTAUT is an evolution of the initial UTAUT model, created in 2003. Hedonic motivation, price value, and habit are the three additional variables that were included to UTAUT 2 [9].

This paradigm has been applied by a number of writers in the past to user acceptability studies. The UTAUT model, which incorporates price value, hedonic motivation, social influence, behavioral intention, and use behavior, has a significant impact on measuring the degree of user acceptance of E-Money Mandiri. The most significant variable is habit on behavioral intention, which is followed by hedonic motivation on behavioral intention and facilitating conditions on use behavior [10]. Lastly, applying UTAUT with the addition of trust and security variables to measure the degree of acceptance of electronic money users produces all UTAUT variables, and the two added variables have a significant impact. Based on a number of prior studies, it can be concluded that the model can be utilized by the author for research pertaining to measuri The model is used by the author to measure user acceptability of server-based electronic wallets [11]. Performance excitement, effort enthusiasm, social influence, enabling situations, hedonic motivation, pricing value, and habit factors are the seven variables that make up this model [12]. Aside from that, the perceived trust and perceived risk variables were added by the author to alter the model. The reason for include the perceived trust variable is because reducing worries about utilizing technology to make online payments requires that users feel secure while transacting financially online. Furthermore, there is a significant correlation between the intention to utilize and the degree of trust [12].

Meanwhile, the addition of the perceived risk variable is an important factor in knowing how users perceive uncertainty and possible undesirable consequences from purchasing products or services, especially for internet-based transactions such as e-commerce and e-banking [13]. Similar to perceived trust, previous research has shown that perceived risk influences technology adoption and that perceived risk can produce anxiety that influences the user's decision-making process [14]. However, this research does not include a moderator variable as in the original model. The moderator variable was not used in this research because of similar observations, which state that most studies that use moderator variables in the model show that the moderator will reduce the resulting value. Other research shows that mobile banking users did not find a significant relationship with the moderating effect of gender and age using the UTAUT model.

2. Research Methods

This research employs a quantitative methodology. To finish this research, data collecting and analysis techniques are required because the methodology is quantitative. A questionnaire was used to conduct a survey in order to collect data. Users of electronic wallets based on servers make up the study's population. The author employed the purposive sampling strategy in this study. For this study, the author was able to assemble a sample of 100 respondents who used server-based electronic wallets. The UTAUT model served as the foundation for the questionnaire's creation in this investigation. The questions were modified based on the method's variables as well as relevant research from previous writers. The two types of data analysis are statistical analysis and demographic analysis. Using IBM SPSS, the author first examined demographic data. The electronic wallet that was used, the respondent's district of residence, gender, age, level of education at the time, frequency of use, amount spent, number of times, and function used were all taken into consideration while grouping the respondent data. Second, the author used SmartPLS to perform statistical analysis. At this point, researchers are doing two analyses: an inner model called the structural model analysis and an outward model called the measurement model analysis. Third, the results of the model analysis are interpreted by the author through a comparison of the model analysis results with prior research linked to the field, as well as a discussion of the results of the demographic analysis of respondents with real conditions in the field.

3. Results and Discussion

The path coefficient value that arises from the structural model is 0.04, and the t-test score is 0.5. proving that there is no evidence of a relationship between the two and that PE has no bearing on BI. These results are similar to research that has been conducted previously. These results are supported by research that states that not feeling significant benefits when using a new system makes users doubt their intention to use it. Apart from that, this is supported by direct observations by researchers; users only use a few features from all the features available on server-based electronic wallets. The resulting path coefficient value is 0.15 and the t-test is 2.4 based on the structural model results. Thus indicating that the relationship between the two is accepted and EE has an influence on BI. These results are similar to previous research, which stated that ease of use of the system has an influence on the use of information technology. Apart from that, this is supported by direct observations by researchers. Users are more likely to intend to use the application because of its simplicity of use and the growing number of

merchants working together to accept payments using server-based electronic wallets. The resulting path coefficient value is 0.19 and the t-test is 2.6 based on the structural model results. Since this result is higher than the threshold, it may be concluded that there is a valid relationship between the two and that SI influences BI. These findings are consistent with earlier research. According to studies, using information technology in some settings can improve a person's standing (image) in the social system, which validates these findings. In addition, researchers' direct observations show that people want to use server-based electronic wallets because of their popularity.

Based on the structural model results, the resulting path coefficient value is 0.19, and the t-test is 2.6. The relationship between the two is accepted, and PT has an influence on BI. These results are similar to research that has been conducted previously. These results are supported by previous research, which states that feeling safe when carrying out financial transactions with online technology is important to minimize concerns about using technology to make online payments. In addition, researchers' direct observations show that users have the intention to use server-based electronic wallets because they perceive a sense of security as a result of the pin and QR code scan requests made when processing payments. Based on the structural model results, the resulting path coefficient value is 0.2, and the t-test is 2.1. thus indicating that the relationship between the two is accepted and PR has an influence on BI. These results are similar to research that has been conducted previously. These results are supported by previous research, which shows that perceived risk influencing technology adoption will produce anxiety, which influences the user's decision-making process. Apart from that, this is supported by server-based electronic wallet providers, who will be responsible if the user experiences a balance loss. According to the study findings, there is a valid association between the two and BI is impacted by FC, as evidenced by the path coefficient value of 0.21 and the t-test of 2.6. These findings are consistent with earlier research. Additional study indicating the extent to which an individual feels that the technological and organizational infrastructure exists to facilitate system use, corroborates these findings. Aside from that, researchers' direct observations corroborate this. Users are more inclined to adopt server-based electronic wallets since more and more retailers and online retailers are teaming up to accept payments through them.

Based on the study findings, the t-test is 5.1 and the path coefficient value is 0.4, suggesting that there is a valid association between the two and that FC influences UB. These findings are consistent with earlier research. These results from previous study are consistent with the extent to which an individual believes that the technological and organizational infrastructure is in place to facilitate system use. This is also corroborated by the researchers' own observations. Users may become accustomed to selecting server-based electronic wallets as their payment method of choice due to the growing number of merchants and e-commerce companies working together to accept payments. The t-test is 1.08 and the path coefficient value is 0.08 based on the research findings. Thus indicating that the relationship between the two is not accepted and HM has no effect on BI. These results are similar to research that has been conducted previously. Other studies that claim that a system's use is only for specific purposes do not contradict these findings. In addition, researchers' direct observations show that users only use it in locations that offer server-based electronic wallets as a payment option.

Based on the structural model results, the resulting path coefficient value is 0.2, and the t-test is 2.8. thus indicating that the relationship between the two is not accepted and PV has no effect on BI. These results are similar to research that has been conducted previously. Researchers' direct observations support this because the majority of users do not require a fee when topping up, so users do not mind the cost factor that they must bear. Based on the research results, the resulting path coefficient value is 0.04, and the t-test is 0.6. This value indicates that the relationship between the two is accepted and that HT has an effect on BI. These results are similar to research that has been conducted previously. Previous studies have shown that people tend to engage in automatic behavior as a result of repeated learning, which supports these findings. Additionally, researchers' direct observations support this: as users get more accustomed to using server-based electronic wallets to make payments, they will likely want to do so again. Based on the structural model results, the resulting path coefficient value is 0.3, and the t-test is 3.97. This value indicates that the relationship between the two is accepted and that HT has an effect on UB. These results are similar to research that has been conducted previously. These results are supported by other research, which states that a person will tend to carry out automatic behavior based on repeated learning. Apart from that, this is supported by direct observations by researchers: as users become more accustomed to making payments using server-based electronic wallets, they will tend to want to do it repeatedly. Based on the structural model results, the resulting path coefficient value is 0.16, and the t-test is 2.03. This value indicates that the relationship between the two is accepted and that BI has an influence on UB. These results are similar to research that has been conducted previously.

Because this path is accepted by the t-test and has a substantial impact according to the path coefficient test, the addition of two variables perceived trust and perceived risk has a significant impact on behavioral intention. This occurs because the provider of the server-based electronic wallet service is accountable for the issue of balance loss and underfunding, which makes users uneasy and unconfident that they won't encounter balance-related issues. The majority of users of server-based electronic wallets are women (72%), GO-PAY users (40%), users who use the wallet 1-3 times per week (3%), users who spend less than Rp 500,000 (up to 90%), and users who use it for online transportation (42%). Therefore, it can be said that the usage function is to use GO-PAY to pay for online transportation services, and the level of usage intensity is still low. The relationship between facilitating conditions (FC) and use behavior (UB), with a path coefficient value of 0.4, is the variable relationship that has the biggest influence in this study. This is followed by the relationship between habit (HT) and behavioral intention (BI), with a path coefficient value of 0.3. With a route coefficient value of 0.04, performance expectancy (PE) with behavioral intention (BI) is the variable association with the least amount of influence. Based on multiple findings, the author believes that this research has benefited and contributed to multiple things, including: The present study has theoretically advanced the use of the UTAUT model by incorporating two new variables, namely perceived risk and perceived trust. The reason for include the perceived trust variable is because reducing worries about utilizing technology to make online payments requires that users feel secure while transacting financially online. In the meanwhile, including the perceived risk variable is crucial to understanding how consumers view uncertainty and potential negative outcomes from making purchases of goods or services, particularly for online transactions like e-banking and e-commerce. From a methodological standpoint, this study also contributes to promoting the use of quantitative techniques in research preparation.

4. Conclusion

Based on the findings of the twelve hypotheses that were employed in the investigation. Three were turned down and nine were approved. The path is accepted based on the t-test and has a substantial influence based on the path coefficient test, so the hypothesis is accepted. In the meantime, the path was rejected by the t-test and did not significantly affect the path coefficient test, leading to the rejection of the hypothesis. Thus, the following variables affect user acceptance: Behavioral intention is significantly impacted by effort depletion. The intention to behave is significantly influenced by social influences. Behavioral intention is significantly influenced by perceived trust anticipation. Behavioral intention is strongly influenced by perceived risk anticipation. Creating expectations and favorable settings has a big impact on behavioral intention. Conditions that are conducive to use have a big impact on behavior. The influence of habit on behavioral intention is substantial. Use behavior is significantly influenced by habit. Use behavior is significantly influenced by behavioral purpose. In the meantime, the following elements have no bearing on user acceptance: Behavioral intention is not much impacted by performance expectations. Behavioral intention is not much impacted by hedonic motivation. Behavioral intention is not much impacted by price value.

The author provides a number of recommendations for additional research that might be taken into consideration based on the findings of the conducted study. The following factors are anticipated to be taken into account by those engaged in comparable research: This study model can be improved by including a user satisfaction variable (user satisfaction), which can affect both the degree of intensity (user behavior) and the intention to use (behavioral intention) of server-based electronic wallets. measuring the degree of user acceptance of server-based electronic wallets using other models, such as TAM2 and TAM3. Recommendations based on the variables used in this research are when users use it, maintain performance and add features they want. Simplifies the process of upgrading an account to full service. Increase attractive advertising via social media or television to attract more people to try server-based electronic wallets. Maintain a sense of user trust and carry out attractive promotions in the form of providing testimonials through public figures. Minimizing the problem of losing user balance and speeding up the return of user balance if this problem occurs. Expanding the reach of collaboration with merchants, e-commerce, and public transportation modes that are able to accept payments using user balances. Improve the user experience by adopting an attractive UI/UX. Still maintaining free balance top-up fees and regularly holding attractive promotions. Following other variable recommendations to improve user habits when using server-based electronic wallets. Following other variable recommendations to increase the intensity of user use of server-based electronic wallets. Following other variable recommendations to improve user habits in server-based electronic wallets.

References

- [1] Ain, N. U., Kaur, K., & Waheed, M. (2016). The influence of learning value on learning management system use: An extension of UTAUT2. *Information Development*.
- [2] Arioseno, R. M., Tannady, H., & Lestari, E. D. (2023). The Effect of Entrepreneurship Education on Entrepreneurial Intention With Human Capital As A Mediating Variable For Students in Tangerang. *Indonesian Journal of Business Analytics*, 3(2), 149-160.
- [3] Tannady, H., Susmantoro, T. D., & Hendra, T. (2023). The Application of Exponential Comparison Method and Analytical Hierarchy Process to Analyze Supply Chain Performance. *Jurnal Sistim Informasi dan Teknologi*, 58-62.
- [4] Enrique, B. P., Elena, C.-T., & Tomás, E.-R. (2015). Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents. *Tourism Management*.
- [5] Nuryana, H. T. A. W. A., & Ryan, R. S. I. A. (2022). Analisis peran service quality dan brand awareness dalam meningkatkan consumer satisfaction pada industri ritel food & beverage (studi kasus foodpedia). *Jurnal Kewarganegaraan*, 6(3).
- [6] Lee, S. W., Sung, H. J., & Jeon, H. M. (2019). Determinants of continuous intention on food delivery apps: Extending UTAUT2 with information quality. *Sustainability (Switzerland)*.
- [7] Suryati, S., Setyasari, U. E., Perwitasari, E. P., Pramono, S. A., Khamaludin, K., Somadiyono, S., ... & Tannady, H. (2022). Pengaruh Service Quality dan Store Atmosphere Terhadap Customer Satisfaction (Studi Kasus Gerai Ritel Burger Cepat Saji). *Jurnal Kewarganegaraan*, 6(3), 5639-5643.
- [8] Omwansa, T., Lule, I., & Waema, T. (2015). The Influence of Trust and Risk in Behavioural Intention to Adopt Mobile Financial Services among the Poor. *International Arab Journal of E-Technology*.
- [9] Tannady, H., & Purnamaningsih, P. (2023). Determinant factors customer satisfaction and its implication on customer loyalty: from the perspective of customers of Vespa. *International Journal of Science, Technology & Management*, 4(2), 434-438.
- [10] Saumell, R. P., Coll, S. F., García, J. S., & Robres, E. (2019). User Acceptance of Mobile Apps for Restaurants: An Expanded and Extended UTAUT-2. *Sustainability*.
- [11] Zakhra, A., Tannady, H., Septiani, R., Yuniwati, I., & Widjaja, W. (2023). Analisis Pengaruh Service Quality Dan Persepsi Harga Terhadap Purchase Decision Produk Elektronik. *Management Studies and Entrepreneurship Journal (MSEJ)*, 4(1), 539-546.
- [12] Troy, T. D., Lenandlar, S., & Kemual, G. (2013). The utility of the UTAUT model in explaining mobile learning adoption in higher education in Guyana. *International Journal of Education and Development Using Information and Communication Technology*, 9(3), 71-85.
- [13] Sutrisno, S., Tannady, H., Santoso, M. H., Karman, A., & Jayanto, I. (2022). Analisis Peran Service Quality, Harga Dan Brand Image Terhadap Customer Satisfaction Jasa Pengiriman JNE. *Management Studies and Entrepreneurship Journal (MSEJ)*, 3(6), 4071-4080.
- [14] Venkatesh, V., Thong, J. Y. L., & Xu, X. (2013). Unified Theory of Acceptance and Use of Technology: A Synthesis and the Road Ahead. *Journal of the Association for Information Systems*.