



Analysis of The Acceptance Level Of Digital Wallet Users in Digitally Parking Payment Using The Technology Acceptance Model Approach

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Abstract

This study aims to identify the factors that affect users' acceptability of using an e-wallet to pay for parking. We used a cross-sectional quantitative approach to carry out this study. We distributed questionnaires and conducted surveys to gather data. This study's population includes anybody who pays with a mobile wallet and utilizes parking services. One hundred people made up the study's sample. Using SmartPLS, we performed statistical data analysis that involved hypothesis testing, inner and outer model analysis, and examination of the data. It's evident from the hypothesis results that using e-wallets to pay for parking makes consumers feel more productive. Users' perception of the usefulness of utilizing e-wallets to pay for parking is indicated by their approval of the PU3 indication. However, because security rejects their goal of using e-wallets, users do not feel secure when using them. Perceived utility and subjective norms are the main determinants of e-wallet acceptance as a payment method; design comes in second. The hypothesis that most influences this research is the relationship between perceived ease of use and perceived usefulness, with perceived ease of use being influenced by design.

Keywords: E-Wallet, User Acceptance, Technology Acceptance Model, Theory Of Planned Behavior.

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1. Introduction

A technological revolution that will drastically alter how we work, live, and interact with one another is currently on the verge of happening. The extent, scope, and complexity of the transition in the future are unknown to us; it will not be like anything humans have ever encountered. These days, technology is advancing quickly, making it possible to carry out various information technology tasks effectively and efficiently, leading to high production levels [1]. Information technology can help a business sell new goods and services to clients and reach a larger audience. Information technology and the Internet influence the transition from an industrial to an information society and subsequently from an industrial to a knowledge economy [2]. Innovations in payment system services, including organizers, mechanisms, instruments, and infrastructure for processing payments, result from the ongoing development of technology and information systems [3]. These innovations are particularly relevant to financial technology and its ability to meet societal needs [4].

FinTech, or financial technology, combines cutting-edge technological advancements with financial concepts to reflect significant changes in the financial services industry. FinTech combines "financial" and "technology" and innovates financial services, particularly in banks. Convenience, security, and modernism in financial transactions are the goals [5]. Applying the FinTech idea entails fusing cutting-edge technology with financial services to produce various digital solutions currently dominating the Indonesian market. Peer-to-peer (P2P) lending, crowdfunding, digital banking, online digital insurance, and payment channel systems are all essential components of this shift [6]. This digital-based financial service provides easy access and increases efficiency and security in carrying out transactions [7]. A company engaged in parking lot management in Indonesia provides a real example of FinTech implementation. This company adopts GNNT (Global Navigation and Navigation Technology) technology and financial technology by implementing a payment system using an e-wallet. Through e-wallets, users can quickly and efficiently pay for parking without using cash, creating a more practical and modern transaction experience [8]. With the fusion of information technology and finance, FinTech continues to carve out a role in changing the global financial services landscape. In the future, it is hoped that this innovation can continue to develop, providing better, safer, and more inclusive solutions for society [9].

However, it is essential always to consider security and regulatory aspects so that FinTech development continues to align with consumer interests and financial stability [10].

E-wallet, a software application on mobile phones for online payments, has become a paradigm-changing innovation in payment systems. Similar to the function of a physical wallet, an e-wallet replaces the use of cash with electronic transactions [11]. In Indonesia, several e-wallets, such as OVO, GoPay from Go-Jek, and Dana, have become popular choices for users [12]. E-wallet offers several advantages, including free top-up fees at leading banks, such as Bank BCA, Bank Mandiri, and Bank Nobu, as well as at Alfamart minimarket outlets. This advantage provides easy access and use for users, especially employees of small and medium enterprises (SMEs) [13]. Previous research that focused on the intentions of SMEs in East Java to adopt financial technology showed that the OVO mobile wallet was considered more accessible for SME employees to use in utilizing financial technology [14]. The company's collaboration with e-wallet service providers, such as OVO, proves that e-wallets can function as an efficient payment solution. In the context of parking lot management companies in Indonesia, using e-wallets as a payment method can solve the queues that often occur when paying cash [15]. A balance in your e-wallet makes the payment process faster and more efficient, improving the customer experience. The company's primary goal in adopting e-wallets as a payment method is to reduce queues and increase efficiency. This reflects a positive response to financial technology trends, where e-wallet integration is one of the strategic steps to improve the customer experience and optimize operational processes [16]. As the e-wallet ecosystem continues to develop and adoption becomes more widespread, it is hoped that companies and consumers will continue to benefit from the convenience, security, and efficiency offered by financial technology through e-wallets. This innovation shows how digital transformation positively impacts various economic sectors and provides practical solutions to everyday challenges [17].

Effective information technology should improve user performance and reduce the effort and time required. However, security remains a crucial aspect of implementing electronic payment methods, especially in parking payments using e-wallets [18]. Although this method does not necessarily provide a clear sense of security for users, attention to security is the main thing that needs to be considered. Researchers conducting a preliminary study highlighted the uncertainty in measuring user acceptance of parking payments using e-wallets. This deficiency has implications for the absence of reports that describe the user's views during the payment process [19]. Therefore, it is important to identify the extent of user acceptance of the payment method [20]. Meanwhile, studies related to information system performance have been the main focus for researchers and practitioners for many years [21]. Researchers consider it urgent to measure the level of acceptance of the technology implemented by companies in their payment systems in this context. By combining aspects of information system performance and user acceptance, this research is expected to provide valuable insights into the e-wallet-based parking payment technology. This research aims to produce recommendations for related parties to improve the payment system implemented by the company. It is hoped that the conclusions of this research can make a positive contribution to the development of information technology and electronic payment methods in the future.

2. Research Methods

Researchers conducted this research using a cross-sectional quantitative approach. Researchers employ a quantitative strategy that consists of two processes: gathering data and analyzing it. The first technique involves gathering data through surveys and the direct or indirect distribution of questionnaires. In order to distribute surveys directly, the appropriate respondents must be located and personally met. This is accomplished by locating the appropriate respondents and having in-person meetings with them while distributing the questionnaire. The questionnaire is then filled out using Google Forms and distributed indirectly through social media. The second approach is data analysis, which is done using statistics and the suggested model. Using the SmartPLS, the researcher conducted outer model analysis, inner model analysis, and hypothesis testing on the data gathered from the questionnaire findings. In light of the previously put forth theory, recommendations and conclusions were drawn. The population in this study is anyone who uses parking services and pays using an e-wallet. The sample in this study was 100.

3. Results and Discussion

It is noteworthy that, with a path coefficient value of 0.2, the findings of the structural analysis of the model demonstrate a considerable positive relationship between perceived usefulness (PU) and design (DES). This indicates that DES contributes positively to e-wallet PU by parking users. The t-test value of 2.2 supports the acceptance of the DES → PU hypothesis, further strengthening these findings. The conclusion from the results of the discussion of hypothesis H1 is that good e-wallet design has a positive impact on user perceptions regarding the usability of the application. Parking users tend to assume that by using a well-designed e-wallet, they will experience significant benefits from the application. It is important to note that these findings are in line with previous research and provide confirmation that design is not just a purely aesthetic element but also a key factor

in creating positive user perceptions of the usability of e-wallet services. Therefore, companies or e-wallet service providers can take strategic steps to improve the quality of their application design so that they can provide a more satisfying user experience and provide clearer benefits. Therefore, businesses or e-wallet service providers can utilize the research findings as a foundation to comprehend the significance of design in gaining more customer approval. Through good design, they can create applications that are not only effective in meeting user needs but also provide added value and greater satisfaction to parking users.

The structural analysis of the model reveals a path coefficient of 0.5 and a significant t-test value of 8.2 for the relationship between perceived ease of use (PEOU) and design (DES). Consistently, these two values support the adoption of hypothesis H2, which asserts a considerable link between DES and PEOU. Thus, it can be said that users' perceptions of an application's ease of use are greatly and favorably influenced by its design. Good design, which provides clarity and ease of understanding, positively influences users' perceptions regarding the ease of use of the application, thus supporting this finding. These results are in line with expectations, in that users tend to rate well-designed applications as easier to use. It is important to remember that effective design includes not only aesthetic aspects but also ease of understanding to ensure that users can quickly understand and use the application. With these findings, companies or application service providers can evaluate and improve their application design to make it more intuitive and easier for users to use. The study's findings thus make a valuable addition to our knowledge of the connection between perceived ease of use and application design. These results can help application developers create visually stunning solutions that provide a more seamless and effective user experience.

The model's structural analysis results indicate that the security (SEC) path coefficient value on perceived usefulness (PU) is 0.2. The obtained t-test value for hypothesis H3 is 2.5, indicating its acceptability. Therefore, we can conclude that the SEC hypothesis positively affects PU. These results confirm that SEC in an application has a significant positive impact on user perceptions regarding the usability of the application. Users tend to view applications positively as they feel safe, and this contributes to their perception of the application's usability. Security is a crucial aspect of technology acceptance, especially in the context of electronic payment applications. Given these findings, companies or application service providers can assess and improve security measures in their applications to strengthen user perceptions of the application's usability. Thus, the results of this research contribute to the understanding of the importance of security factors in achieving the PU of an application. The implication is that companies or e-wallet service providers can prioritize and implement effective security measures to increase user trust and acceptance of their services.

The association between SEC and PEOU has a significant t-test value of 5.7, according to the results of the structural analysis of the model. These conclusions are further supported by the path coefficient value of 0.4. As a result, hypothesis H4, which claims that SEC has a beneficial impact on PEOU, is validated. These findings support the notion that SEC in an application influences users' opinions on how user-friendly it is in a positive way. People frequently believe that an application's ease of use is correlated with its level of security. User impressions of program usability are significantly influenced by security, particularly when it comes to e-wallets. With the acceptance of this hypothesis, companies or service providers can recognize that improving security in applications can have a positive impact on the user experience. Thus, the results of this study provide additional insight into the relationship between the level of security and the ease of use of an application. The implication is that companies or e-wallet service providers can focus more on improving security aspects to create a smoother and more comfortable user experience.

The association between security (SEC) and intention to use (ITU) had a t-test value of 1.1 and a path coefficient value of 0.07, according to the findings of the structural model study. These findings indicate that the SEC → ITU relationship does not have a significant influence, and hypothesis H5 is rejected. Further analysis revealed that the f^2 and q^2 values also showed little influence on the hypothesized path. The rejection of hypothesis H5 may be explained by the possibility that the PU variable mediates the influence of SEC on ITU. In other words, although there is no significant direct effect from the SEC to the ITU, there is an indirect effect through the PU mediator. This indicates that when users believe that an e-wallet application is secure (SEC), it may not directly drive intention to use (ITU), but through perceived usefulness (PU) resulting from that sense of security. These findings demonstrate the importance of understanding the role of mediating variables, such as PU, in detailing more complex mechanisms and relationships within structural models. Therefore, companies or e-wallet service providers can better understand that improving security in their applications not only influences users' intention to use them directly but also through a mediation process through perceived usefulness (PU). With this understanding, application development and security improvement strategies can be more precise and targeted to increase user intentions to use the service.

The PEOU → PU hypothesis has a t-test of 8.8 and a path coefficient of 0.6, according to the findings of the structural analysis of the model. These results show that the PEOU → PU hypothesis can be accepted. This indicates that the statistical analysis's findings are consistent with the conclusion that PEOU significantly affects PU. Based on a high t-test value and a significant path coefficient, we can conclude that perceiving an

application as easy to use (PEOU) positively influences users' perception of the application's usefulness (PU). This result is consistent with other studies that demonstrate how users' perceptions of an application's usefulness are directly impacted by how simple it is to use. The implication of these results is that companies or application service providers must pay attention to and improve ease of use aspects in designing and developing their products. By providing intuitive and simple interfaces, they can improve users' perceptions of the app's usability, which in turn can support user acceptance and use of the app.

The model's structural analysis showed that there was no discernible association between intention to use (ITU) and perceived ease of use (PEOU). Hence, hypothesis H7 must be rejected as the t-test value for $PEOU \rightarrow ITU$ is 1.9. The initial hypothesis proposed that the ease of use of a technology by individuals would influence their intention to use the technology, but this finding contradicts that hypothesis. The results showing that PEOU does not have a direct influence on ITU are in line with previous research, which suggests that perceived ease of use is not always the main factor in forming users' intentions to use a technology. These findings suggest that factors other than ease of use may also play a significant role in shaping users' intention to use an application. Other aspects, such as clear notifications after scanning a barcode or a pleasant user experience, can influence the success and satisfaction of users in making parking payment transactions. To increase users' intention to use the application, companies or e-wallet service providers can carry out further evaluation of additional aspects that can influence the overall user experience. By doing so, companies or e-wallet service providers can carry out application development and improvements in a more focused manner, thereby increasing user acceptance and satisfaction.

We accept hypothesis H8, which contends that intention to use (ITU) is influenced by perceived usefulness (PU), based on the findings of the model's structural analysis. The t-test value of 3.01 and the path coefficient value of 0.3 reinforce the significant influence of the $PU \rightarrow ITU$ relationship. This finding is in line with previous research, which shows that an individual's assessment of the perceived benefits of using a technology (perceived usefulness) influences the individual's interest in using or accepting the system (intention to use). The implication is that companies or e-wallet service providers can focus more of their efforts on improving and conveying the value and benefits felt by users through their applications. Through strategies that support high perceived usefulness, they can increase users' intentions to use the service. With this understanding, companies can more effectively design marketing campaigns, feature development, and service improvement efforts to achieve the goal of increasing user acceptance and use of the application.

In light of the model's structural analysis findings, we adopt hypothesis H9, which contends that subjective norms (SN) have an impact on perceived utility (PU). A t-test value of 3.5 and a path coefficient value of 0.15 corroborate this conclusion and show that there is a substantial association between SN and PU. Therefore, it may be concluded that people's experiences with technology are influenced by their subjective norms. These findings are consistent with earlier studies that demonstrate the impact of subjective norms (SN) on perceived utility (PU). Verbal communication between individuals can influence individuals' assessment of the benefits experienced after using a technology. The implication is that companies or e-wallet service providers can understand that social influences and norms in an individual's environment can shape their perceptions of the benefits of using applications. Therefore, marketing and communication strategies can be focused on establishing positive norms regarding the use of e-wallet services so as to increase perceived usefulness and user intentions to use the application. With this understanding, companies can better incorporate social factors into their product development and marketing strategies to create more positive user experiences and increase public acceptance of e-wallet technology.

The findings of the model's structural analysis provide credence to the acceptance of hypothesis H10, which holds that intention to use (ITU) is influenced by subjective norms (SN). This conclusion is corroborated by the $SN \rightarrow ITU$ t-test value of 7.1 and the path coefficient value of 0.4, which show a substantial impact of subjective norms on users' inclinations to adopt technology. These findings are in line with earlier studies that demonstrate the impact of subjective norms (SN) on intention to use (ITU). The intention of an individual to utilize technology might be influenced by social pressure or environmental support. The implication is that companies or e-wallet service providers can understand that subjective norms, such as support from companies to make it easier to pay for parking using e-wallets, can influence individuals' intentions to use this technology. Therefore, marketing and communication strategies can be focused on creating positive norms regarding the use of e-wallet services so as to increase users' intentions to adopt this technology. With this understanding, companies can better direct their efforts toward shaping positive perceptions and social norms regarding the use of e-wallet technology, which in turn can increase acceptance and use of the service by the public.

4. Conclusion

Based on the analysis and discussion, we can draw several conclusions. First, it can be concluded that users consider e-wallets to be effective as a means of paying for parking, as indicated by the receipt of the perceived usefulness indicator (PU3), which shows the effectiveness of using e-wallets. However, the rejection of the

security hypothesis regarding intention to use indicates that security remains a concern. Second, security against intention to use and perceived ease of use against intention to use (PEOU → ITU) are the two hypotheses that this research denies. In the event that the t-test value is below the threshold, it may be rejected, or it may be rejected in the other scenario. Third, the perceived utility, subjective standards, and design of e-wallets are elements that affect their acceptance as a payment method for parking. The hypothesis that has the biggest impact on perceived usefulness among these three criteria is perceived ease of use on perceived usefulness, followed by perceived ease of use on design in this study. Overall, these findings provide insight into factors that may increase acceptance of e-wallets as a means of parking payment. The importance of security, perceived benefits, social norms, and application design are the focus of attention for companies or e-wallet service providers to increase the adoption of this technology among users. Understanding these aspects enables the development of more effective strategies to achieve the goal of wider acceptance and use of e-wallets.

The researcher suggests several considerations for further research and for related parties, especially companies implementing e-wallets for parking payment, based on the research results. For further research, especially for researchers interested in similar topics, it is recommended to consider the following: First, expanding the respondent population by taking samples outside the Jabodetabek area can provide a more comprehensive understanding of the adoption of e-wallets as a means of parking payment in various geographic contexts. Furthermore, research regarding the level of user satisfaction with the use of e-wallets as a means of paying for parking could also be an interesting research area to explore. The use of qualitative methods involving expert respondents or experts in the e-wallet industry can provide in-depth insight regarding technical and strategic aspects. For companies involved in implementing e-wallets, researchers provide several suggestions. First, companies should pay special attention to subjective norm factors that influence users' intentions to use e-wallets. The company can continue to provide guidance and encourage parking users to continue using e-wallets, for example, by making banners explaining easy procedures for using e-wallets as a means of paying for parking. To enhance user convenience, it is necessary to increase the utilization of e-wallets. One way to increase user comfort and convenience in making transactions using e-wallet is by adding a direct scan feature via the application, eliminating the need for paper. This is expected to increase user comfort and convenience in making transactions using e-wallets. Implementing these suggestions is expected to increase the acceptance and use of e-wallets as a means of paying for parking and provide a more positive user experience.

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