Analysis of E-Commerce User Acceptance of Technology-Based Loan Application Features Using The UTAUT Model

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Abstract

The purpose of this study was to obtain and determine the variables that influence the interest of pay later loan users in DKI Jakarta using the modified UTAUT 2 model by adding one perceived security variable. This study used a quantitative method by distributing questionnaires online to 163 pay later users. Using the PLS-SEM analysis approach with SmartPLS 3.3, of the 11 hypotheses tested, five had a significant effect, and six had no significant effect. The relationship path that has the greatest influence is behavioral intention and use behavior, while the path that has the least influence is social influence on use behavior. The results of this study provide recommendations on performance extension by increasing the performance of the pay later feature. Effort expectancy by making it easy to activate the pay later and providing limit adjustments. Social influence creates attractive ads and expands paid information. Hedonic motivation by improving the appearance of a more attractive user interface and increasing the use of the system with user experience. Price value by providing low interest and appropriate limits. Habit by following the recommendations of all variables as a reference for future improvement steps. Facilitating conditions pay later cooperates with other merchants as a payment option to expand the network. Perceived security by implementing fingerprint locks and enhancing user information security and privacy. Behavioral intention follows all recommendations on the factors that influence intention. and use behavior following the recommendations on the factors that influence the intensity level of the user's use of the pay later.

Keywords: Pay Later, UTAUT, Behavioral Intention, Effort Expectancy.
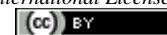
1. Introduction

Along with increasingly advanced developments, utilizing the role of technology that has spread to various fields, one of which is the field of trade, to expand its business so that it is easy to get buyers through technological intermediaries by relying on electronic networks or the internet, which can be accessed easily anywhere and anytime [1]. During the COVID-19 pandemic, digital businesses took advantage of their role in developing technology by making it easier for society, one of which was creating e-commerce according to current market needs [2] [3]. In fact, according to data from Bank Indonesia, e-commerce transactions in Indonesia have continued to increase; it is even estimated that the surge in e-commerce transactions during this pandemic will increase to 530 trillion, which is an increase of 31.4% [4]. The surge in transactions in e-commerce during this pandemic most likely occurred because people anticipated the transmission of the COVID-19 virus, and PPKM (Implementation of Restrictions on Community Activities) was implemented during the pandemic, so that it was difficult for people to shop for their daily basic needs and use e-commerce as a model digital transactions [5]. In this digital era, business people in the e-commerce sector continue to try to make new innovations by providing various features to increase the comfort and security of their loyal customers [6] [7] [8]. Trust and convenience can influence the decision to make an online purchase [9] [10].

Business founders are competing to utilize technology to gain profit and customer loyalty because customers get easy access to making online payments, one of which is encouraged by financial technology services to increase e-commerce transactions [11]. One of the innovations in providing e-commerce convenience is collaboration with technological financial services, commonly referred to as fintech, to facilitate e-commerce purchases without using a debit card [12] [13]. Previous research has found that financial technology has a relationship with customer loyalty [14]. The relationship between financial technology and purchasing decisions tends to be influential because it facilitates payment transactions, thus convincing users to make purchasing decisions [15]. E-commerce has also developed using fintech's encouragement to create pay-later platforms by applying for loans to lenders (P2P) [16].

From the results of a survey conducted on 1,500 respondents, the installment payment feature, commonly known as pay later, which was in great demand during the COVID-19 pandemic throughout 2021, was in first place,

namely pay later, with a percentage value reaching 78.4% [17]. Of the 2,000 respondents surveyed, 1,872 respondents, or as many as 89.10%, came from the provinces of the island of Java: West Java got the first 25.35%, DKI Jakarta 20.10% was the second most, East Java 18.30% was the third most, and Central Java 13.50% was the fourth most [18]. In an Islamic legal review of pay-later credit practices, it can be seen from the pillars and legal terms of buying and selling that they can be fulfilled because there is a sense of willingness on the part of the buyer and the benefits felt by pay-later users to meet urgent needs [19]. From a legal review of Islamic law, utilizing the pay later feature can increase the loyalty of customers who don't have money but are in dire need of goods. Thus, managers in e-commerce companies thinking about expanding into new markets can anticipate which payment method customers will choose [20]. However, behind the widespread use of pay later among online consumers, there have been several complaints of problems that have hindered the success of pay later [21]. With the level of usage growing and the problems that occur as obstacles to pay-later success that can affect user satisfaction, it is necessary to carry out analysis and evaluation related to measuring the level of user satisfaction. In addition to an analysis of competitors' payment offerings, it may be worth a complementary analysis [22] [23]. The required input variable from the equation pay-later concludes that performance expectancy has a significant positive relationship to behavioral intention; the better the pay-later performance, the better the effect on e-commerce users [24] [25].

One instance uses the UTAUT (Unified Theory Acceptance and Use of Technology) 2 research methodology, which through time evolved from the theory of the UTAUT model to the UTAUT 2 model [26]. The factors that affect people's acceptance of information technology are described by the UTAUT model. Four construct factors in the UTAUT model play a crucial role in predicting how users would accept and use technology [27]. These four factors are social influence, facilitating conditions, effort expectancy, and performance expectancy. To improve customer intention to embrace Go-Pay, management marketing campaigns can be developed using the proposed UTAUT 2 paradigm [28]. The TAM (Theory Acceptance Model) approach can only measure 1,782, whereas the UTAUT 2 (Unified Theory of Acceptance and Use of Technology 2) method can measure up to 2,109. By generating greater validity and reliability correlation values, the UTAUT 2 approach demonstrates its ability to measure more accurately. Online purchase decisions might be influenced by convenience and trust. UTAUT is the incorporation of a number of technology acceptance models, including the Social Cognitive Theory (SCT), the Technology of Acceptance Model (TAM), and the Theory of Reasoned Action (TRA) [29].

UTAUT 2, on the other hand, is a theoretical expansion of UTAUT, which in 2012 advanced the theory of UTAUT 2 by including three moderator factors, namely age, gender, and experience [30]. The construct effects of behavioral intention and use behavior are moderated by these three variables. When embracing and utilizing technology, UTAUT 2 learns how to view it from the standpoint of the consumer context [31]. By analyzing the eight models and identifying seven components that seem to be substantial direct predictors of behavioral intention or use behavior in one or more of each model, the UTAUT approach was applied. The additional constructs are self-efficacy, social influence, facilitating conditions, performance expectation, effort expectation, and attitude toward using technology [32]. Following more testing, four additional constructs performance expectation, effort expectation, social influence, and facilitating condition were found to be crucial determinants of behavioral intention and use behavior [30]. The results of the respondent's assessment are at a high level and can be classified as good according to the modified UTAUT2 model because they are above 74.6% [31].

2. Research Methods

The research method used is to use quantitative measurement methods by calculating hypothesis models, which therefore requires data collection using the questionnaire method by distributing Google Forms containing questions related to the research to be answered by respondents. This research is quantitative because it applies statistics, so processing data requires statistical data processing software and supporting tools for making reports, namely Microsoft Excel 2019 to sort and process questionnaire data to get demographic results as well as results for inner model data processing and outer model data processing using SMARTPLS version 3.0, which tests and analyzes the variables that have been determined. Using Microsoft Word 2019 to create research reports. The population set for this study is e-commerce users, especially users of the paylater feature or online loans with an installment payment system or one-time payment. In taking samples using the purposeful sampling technique. This type of sampling is included in the non-probability technique, with a total of 165 respondents.

In this research design, several stages were carried out to conduct research, including research development and research questionnaire design. The method used in this study uses the UTAUT 2 model, which was developed by Venkatesh et al. (2012) from the previous UTAUT method by adding three new constructs: hedonic motivation, price value, and habit. UTAUT 2 is a theoretical model to study the level of acceptance of technology by users. This study also added one variable to the UTAUT 2 model, namely perceived security. In designing this questionnaire, it was based on the UTAUT 2 model by adjusting the variables in the UTAUT2 method and also on previous research references. This research includes 29 questions adjusted for the variables in the research method above. The questions on the questionnaire are divided into several sections. The first part is an opening greeting,

a preface, and information related to research. The second part contains statements and questions related to the research in the questionnaire. Questions are made based on the variables contained in this research model.

3. Results and Discussion

Based on the results of the demographic analysis obtained from 163 respondents, 108 dominated with a percentage value of 66% being female respondents, while the remaining 55 with a percentage value of 34% were male respondents. This can happen because women are more interested in filling out the questionnaire. In addition, the distribution of questionnaires started with career women, who often shop online using the pay later method. Respondents aged 17–20 years amounted to 25 people with a percentage value (15%), then for ages 21–25 years, who dominated the choice of respondent's age criteria, there were 75 people with a percentage value (46%), for ages 26–30 years, there were 42 people with a percentage value (26%), and at least 21 respondents aged 31 years and over had a percentage value (13%). This is because a large number of people aged 21–25 have an interest in trying new knowledge on the latest features, and at this age they have jobs with good results, so they dare to try new features in the form of online loans with an installment system without a credit card. The East Jakarta area dominates with 48 respondents getting a percentage value of 29%, the South Jakarta area is the second largest with 44 respondents getting a 27% percentage, the Central Jakarta area is the third largest with 35 respondents getting a 22% percentage value, the Jakarta area West got 20 respondents with a percentage value of 12%, and the least number of respondents in the North Jakarta area with 16 respondents got a percentage value of 10%. This means that the distribution of respondents is evenly distributed throughout the region due to the distribution of respondents via the Internet, which can spread quickly to various parties of the respondent. the results of the demographic analysis of how long the respondent has been an active pay later user. In a period of less than 1 year, it dominates with 82 respondents with a percentage value of 50%, a 1–2-year period with 71 respondents with a percentage value of 44%, and the rest with at least 10 respondents with a percentage value of 6%. This is because in less than 1 year, the pay later feature has skyrocketed to become a discussion of new technology by providing installment services without using a credit card. Last year, pay later was in great demand due to the impact of the COVID-19 pandemic, so many new users tried the pay later feature in less than 1 year, with an estimated time of 2020. Meanwhile, the fewest users who have been active for 1–2 years are likely old e-commerce users.

The choice of active use a week 1-3 times was made by 82 respondents with a percentage value of 51%, active use a week 3-6 times was made by 73 respondents with a percentage value of 45%, and usage > 6 times was made by 7 respondents with a percentage value of 4%. This is likely to occur because there are many users who have just used pay later for less than a year, indicating that the intensity of using pay later is still very low. so that payments with the cash payment system are still in great demand, and pay later is used only for urgent needs. The results of the respondent's demographic analysis determine the payment due date. The choice of due date on the 11th was 76 respondents with a percentage value of 47%, and the highest yield was on the 5th with 87 respondents with a percentage value of 53%. This is likely the number of respondents who chose the beginning of the month because it corresponds to the date of release of the honorarium (salary). The one-time payment option gets 21 respondents with a percentage value of 13%; the 2-time installment payment option gets 15 respondents with a 9% percentage value; the 3-time payment installment option gets 50 respondents with a 31% percentage value; and there are six installment options. Payouts get the highest number of respondents, 63 people with a percentage value of 39%, and payouts get the least number of respondents, namely 4 people with a percentage value of 8%. This might happen because the choice of 12 installment payments takes a long time, and users are sure of their economic income, so they choose to pay in installments longer. The option to pay at most six times is vulnerable in the middle, where they are more confident of being able to pay in a period that is not too long but not too fast either. Nominal expenses starting from Rp. 100,000–Rp. 500,000 dominate with a total of 83 respondents and a percentage value of 51%; nominal expenses starting from Rp. 500,000–Rp. 1,000,000 totaling 37 respondents with a percentage value of 23%; nominal expenses starting from Rp. 1,000,000–Rp. 2,500,000 totaling 28 respondents with a percentage value of 17%; and a nominal expenditure of more than Rp. 2,500,000 is the choice of respondents with at least 15 respondents with a percentage value of 9%. This is because the installment option of Rp. 100,000–Rp. 500,000 is the option with which most are able to make installment payments.

Based on the results of the inner model test, the summary results show that the path (path) PE to BI in the path coefficient data test shows insignificant results of 0.067 below the standard value of 0.1. The t-test was rejected with a result of 1.010, where the standard result must be greater than 1.96. while for testing the coefficient of determinant R^2 gets moderate results, and Q^2 gets relevance results. Then the performance expectation relationship is rejected or has no influence on behavioral intention, strengthened by the results of effect size f^2 and relative impact q^2 with small criteria. These results are similar to previous studies, which did not have a significant effect and were influenced by the answers of the respondents, who stated that it was not always able to improve and help a person's performance. Reinforced by other research, it does not have a significant effect on e-commerce users; the benefits, usability, and convenience of using this technology cannot be felt; the main driving force for using this technology is felt in other factors outside of technology. This is also supported by direct observations of

researchers, where respondents do not always use pay-later, instead taking advantage of other technological features of e-commerce such as the provision of free shipping, cashback vouchers, and other credit features.

The results of the description of the analysis of the path coefficient EE test to BI get a result of 0.846; this value is significantly above the 0.1 standard. While the t-test was rejected with a value of 1.148 less than 1.96, the effect size f2 and the relative impact q2 were small. But for testing the coefficient of determinant R2 to get moderate results and the predictive relevance test to get relevant results, the test on effort expectancy on behavioral intention is rejected or has no effect. This is similar to previous research; it is not significant, and there is no comfort or convenience for users in using technology. This is also similar to other studies, with no significant effect where users feel that convenience and comfort need to be improved again. Reinforced by previous research, the variable that represents the user's perceived ease of use is low or rejected because the user attaches great importance to things when using the system. The smaller the effort to use the system, the easier the system is to use. This is also supported by direct observations made by researchers, where the ease of using pay later does not affect customer intentions to make purchases in e-commerce. As with previous studies where Windows 10 OS users felt work and interaction with the operating system did not affect the user's intention to use the OS.

Analysis of the SI to BI path coefficient test results shows that they are not significantly different from the standard test results, which must be above 0.1. For testing the t-test to get results below the standard 1.96, namely 0.120, testing on effect size f2 and relative impact q2 gets small results. But for testing the coefficient of determinant R2 to get moderate results and the predictive relevance test to get relevant results, the social influence path test on behavioral intention is rejected or has no effect. This is similar to previous research, which had no significant effect because users felt that using e-commerce was not influenced by the surrounding environment or other people's experiences but rather by their own motivation to use e-commerce. This is also similar to other studies conducted, which found that SI does not have a positive effect on BI. It is supported by observations made by researchers, where respondents feel that they use pay later not from outside encouragement but from their own will to try to use pay later.

The results of the information for testing the path coefficient get insignificant results because they are below the standard value of less than 0.1, namely with a result of 0.072. For the t-test to get results above the standard of 1.96 with a result of 1.444, testing on the effect size f2 and relative impact q2 produces a small criterion value. But for testing the coefficient of determinant R2 to get moderate results and the predictive relevance test to get relevant results, the test on hedonic motivation on behavioral intention has no effect or is rejected. This is similar to previous research: it is not significant or has no positive effect on pleasure and motivation in using technology. This is supported by previous similar research, which is significant for BI. With this, related parties must pay more attention to user interests while using technology services and provide interesting information to attract new users. Apart from previous research, this is also supported by direct observations by researchers, where users feel that using pay later does not bring pleasure; they use it only for certain purposes.

The results of the information for testing the PV path coefficient to BI get insignificant results below 0.1, with a result of 0.086. for the t-test to get results below the standard of 1.96, namely with a result of 0.898, as well as testing on the effect size f2 and relative impact q2, produces a small criterion value. But for testing the coefficient of determinant R2 to get moderate results and the predictive relevance test to get relevant results, the test on price value on behavioral intention has no effect or is rejected. This is similar to previous research, which did not prove to have a positive effect; the cost used does not affect the respondent's intention to use the technology, therefore the relationship between PV and BI is rejected or has no effect. This is supported by direct research observations, where respondents feel the price or interest paid for one item is in accordance with the limit obtained and do not object to the rule of a handling fee of 1% of each total transaction.

The results of the information for testing the HB path coefficient to BI get significant results above the standard value of 0.1, with a fairly high result of 0.328. Likewise, the t-test obtained results above the standard of 1.96, with a result of 2,806. while testing on effect size f2 and relative impact q2 produces a small criterion value. For testing the coefficient of determinant R2 to get moderate results and the predictive relevance test to get relevant results, the test conducted on Habit on Behavioral Intention has an effect on being accepted. The following results are similar to previous research: users feel that using this technology is a habit that is carried out continuously until it becomes part of their life. Habit has a positive effect on the behavioral intentions of BI. Supported by direct observations made by researchers, where respondents agreed that using pay later had become a habit, the choice of installment payment time levels was mostly 12 installments and 6 installments. This has become a habit for respondents to use pay later every month due to the obligation to pay the bills.

Testing the path coefficient of HB to UB gets significant results above the standard value of 0.1, with a fairly high result of 0.277. While for the t-test, the results were below the standard 1.96 with a result of 0.973. Likewise, the test results on effect size f2 and relative impact q2 get results with small criterion values, and predictive relevance tests get relevant results. but for testing the coefficient of determinant R2 with standard criteria above 0.75. Then the results of the tests carried out on the habit path to use behavior are rejected or have no effect. This is similar to previous research: the habit variable (HB) has no positive effect on use behavior (UB). This is directly supported

by researchers' observations: where habits do not directly affect UB, there is no user interest in using pay later repeatedly and continuously. This is supported by direct observations made by researchers, where users do not want the intention to use pay later to become a habit, and there is no intention from users to be interested in using pay later.

FC path coefficient testing to BI obtained insignificant results below the standard value of 0.1 with a result value of 0.080. While for the t-test, the result is above the standard value of 1.96 with a calculation result of 2.109, the effect size $f2$ gets results with medium criteria, while the relative impact $q2$ gets results with small criteria. Predictive relevance testing gets relevant results. But for testing the coefficient of determinant $R2$ above 0.50, the criteria are moderate or moderate. Then the results of the tests carried out on the facilitating condition path to behavioral intention are accepted. This is similar to previous studies where FC has a direct impact on BI, so the variable is significant or acceptable. This can provide recommendations to related parties to be able to increase acceptance rates and provide online resource facilities and knowledge to customers. This is also supported by direct observations made by researchers: knowledge related to pay later is now in demand during the COVID-19 pandemic; information regarding pay later that is easy for users to understand, such as reminders of due dates and interest to be paid; easy steps to activate pay later; and besides that, users agree to the convenience of using pay later to make payments using installments. This research is in accordance with the background and research from previous research conducted in 2020 on 3,560 respondents shopping in e-commerce using pay later, which has continued to increase over the past year. At that time, we were in the midst of a COVID-19 pandemic.

FC path coefficient testing to UB gets significant results above the standard value of 0.1, with a result of 0.175. as well as the results of the t-test above the standard value of 1.96, with a result of 2.055. In testing the effect size $f2$ to get results with medium criteria, while the relative impact $q2$ gets results with small criteria values, the predictive relevance test gets relevant results. but for testing the coefficient of determinant $R2$, it gets high results with strong criteria. So, the results of the tests carried out on the facilitating condition path to use behavior are significant and accepted. This is similar to previous studies conducted where FC has a significant influence on UB; FC has a significant positive effect on UB.

PS path coefficient testing with BI obtained significant results, with a result of 0.263 above the standard value of 0.1. Likewise, with the results of the t-test, we got results above the standard value of 1.96 with a result value of 2.471 in testing the effect size $f2$ to get results with moderate criteria. While the relative impact $q2$ test gets results with small criterion values, the coefficient of determinant $R2$ test gets moderate results, and the predictive relevance test gets relevant results. So, the results of the tests carried out on the perceived security path to behavioral intention are acceptable. In accordance with previous similar research, perceived security is accepted or has a significant impact; it indirectly has a strong effect through general privacy related to user intentions. The independent variable must have an impact on the dependent variable. It is also similar to previous research, where perceived security is accepted and felt to have a significant relationship with behavioral intention, which means customers have confidence in the technology. Therefore, related parties must pay more attention to customer security and trust when using technology by providing a special focus on ensuring security, privacy, and customer trust by designing software that is easier, more reliable, and safer. This is similar to observations made by researchers: security in pay later affects user intentions to use pay later. The security provided by pay later in the form of identity verification and a pin makes users feel safe and confident, and they intend to use pay later.

The BI path coefficient test to UB gets significant results, with a result of 0.846 above the standard value of 0.1. Likewise, the t-test test obtained results above the standard value of 1.96 with a very large result of 11,486, reinforced by the results of the effect size $f2$ and relative impact $q2$ tests to obtain results with large criteria only in this test, for testing the coefficient of determinant $R2$ to obtain results with strong criteria, and predictive relevance testing to get relevant results. So, the results of the tests carried out on the behavioral intention path to use behavior have a significant effect on all things good and acceptable. This is similar to previous research showing that behavioral intention has a significant positive and acceptable effect on use behavior, which is proven to have a direct effect on user acceptance. Supported by other studies, BI testing at UB has a significant effect on user behavior. This is supported by direct observations made by researchers about e-commerce. Users are interested in using pay later and plan to continue using it until their installments are finished; some users even feel they will use it again for new installments when their installments are finished. With this behavior, users are sure that using pay later can help them buy goods according to their needs and complete their wishes using an easy installment payment system without a credit card.

4. Conclusion

The addition of the variable perceived security to examine the security felt by users produces a significant influence on user behavioral intentions, or behavioral intention, based on the results of the t-test and path coefficient, which have values above the standard value threshold. Users feel guaranteed pay later security with identity verification when they want to activate pay later. Pin keys and OTP codes when making transactions using pay later feel safe. Of the 11 hypotheses, five hypotheses were accepted and six hypotheses were rejected. The rejected hypotheses

are EE → BI, HB → UB, HM → BI, PE → BI, PV → BI, and SI → BI. While the accepted hypothesis is the path FC → BI, FC → UB, HB → BI, PS → BI, and BI → UB. Because the path's path coefficient value is not significant and it has a rejected t-test value, the path is rejected. The path coefficient value is significant, and the t-test value supports the hypothesis, thus it is accepted. The relationship between behavioral intention and use behavior is the variable relationship that has the biggest impact on this study; it is followed by the relationship between habit and behavioral intention variables, which has the second biggest impact, and the relationship between perceived security and behavioral intention, which has the third biggest impact. In this study, the relationship between social influence and use behavior is the variable relationship that has the least impact. In addition, the relationship between performance expectation and behavior intention comes in third for having the least impact, and the relationship between hedonic motivation and behavioral intention has the third-smallest impact. The behavioral intention variable with Use Behavior has the highest influence value based on the user's intention to use pay later in the future by taking installments for 6 payments each month, so that for a month the user will definitely use pay later and continue to use it to make further payments or take new purchases, while the social influence variable has the lowest influence value based on the absence of influence from other parties to use pay later.

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