



## Evaluating the Success of Bank Jago Digital Banking Application using an Integrated DeLone and McLean and TAM Model

<sup>1</sup>Dessy Elvyana



Department of Information System, Universitas Islam Negeri Sultan Syarif Kasim, Riau, Indonesia

<sup>2</sup>Zarnelly



Department of Information System, Universitas Islam Negeri Sultan Syarif Kasim, Riau, Indonesia

<sup>3</sup>Tengku Khairil Ahsyar



Department of Information System, Universitas Islam Negeri Sultan Syarif Kasim, Riau, Indonesia

<sup>4</sup>Nesdi Evrilyan Rozanda



Department of Information System, Universitas Islam Negeri Sultan Syarif Kasim, Riau, Indonesia

<sup>5</sup>Angraini



Department of Information System, Universitas Islam Negeri Sultan Syarif Kasim, Riau, Indonesia

### Article Info

#### Article history:

Accepted: 10 July 2026

#### Keywords:

Bank Jago;  
DeLone and McLean;  
Digital Banking;  
Information System Success;  
PLS-SEM;  
Technology Acceptance Model.

### ABSTRACT

The rapid growth of digital banking in Indonesia has increased the need to evaluate the success of digital banking applications from both information system and user acceptance perspectives. Despite its widespread adoption, Bank Jago users continue to report issues related to system performance and service quality. This study evaluates the success of the Bank Jago application by integrating the DeLone and McLean Information Systems Success Model with the Technology Acceptance Model (TAM). A quantitative survey of 100 Bank Jago users in Pekanbaru, recruited through non-probability accidental sampling, was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4; this geographic and sampling scope bounds the generalizability of the findings. Seven of the nine hypotheses were supported; Information Quality did not significantly affect User Satisfaction, and Perceived Usefulness did not significantly affect Behavioral Intention to Use. The model explained a substantial proportion of variance in User Satisfaction ( $R^2 = 0.752$ ), and the strongest reported standardized relationship was User Satisfaction on Net Benefit ( $\beta = 0.747$ ), which is a single-predictor path and should be interpreted with that structural prominence in mind. These findings support the integrated DeLone and McLean and TAM framework in the digital banking context and indicate that Bank Jago should prioritize system quality, service quality, and application usability to enhance user satisfaction and the benefits perceived by users.

This is an open access article under the [CC BY-SA](#) license.



### Corresponding Author:

Dessy Elvyana  
Department of Information Systems,  
Sultan Syarif Kasim State Islamic University of Riau  
Email: [12050320376@students.uin-suska.ac.id](mailto:12050320376@students.uin-suska.ac.id)

## 1. INTRODUCTION

Digitalization has reshaped the banking sector, and with advancing technology and widespread internet access, digital banking has become a primary channel for financial transactions [1]. Bank Jago, rebranded from PT Bank Artos Indonesia in 2020 [2], launched its application in April 2021 as a digital bank for everyday financial management [3]. It integrates with digital ecosystems such as Gojek, Bibit, and Stockbit [4] and operates under Financial Services Authority (OJK) supervision [5]. In 2022, Bank Jago was the most used digital banking application in Indonesia (46% share, Populix via GoodStats) [6]. It also ranked among the most-used digital banking apps by Gen Z in 2024 [7]. Although more recent surveys (2024 Populix; 2025 Ipsos) place it second after SeaBank, Bank Jago remains a leading digital bank with more than 10 million Play Store downloads and a sustained user base. As competition intensifies, digital banks must continuously improve system and service quality to retain users. Yet information systems are not without problems [8]. Bank Jago users, too, have reported problems such as slow login, suboptimal service response, limited QRIS functionality, scarce promotional information, and difficulties completing transactions. Such experiences can lower user satisfaction and weaken continuance intention, so a comprehensive model is needed to evaluate information system success.

The DeLone and McLean Model is among the most widely used models for measuring information systems success. First introduced in 1992, it was updated by DeLone and McLean 2003 [9], adding Service Quality and introducing Net Benefit as the final outcome, so that system, information, and service quality drive use and user satisfaction, which in turn yield net benefits; DeLone and McLean 2016 [10] confirmed its continued relevance across contexts. The Technology Acceptance Model (TAM), introduced by Davis in 1989 and later assessed by Davis and Venkatesh [11] explains acceptance through Perceived Usefulness and Perceived Ease of Use. Because the two models emphasize different aspects system quality versus user perception integrating them gives a fuller account of technology success. This study therefore integrates them to evaluate the success of the Bank Jago application in terms of system quality, technology acceptance, user satisfaction, intention to use, and realized benefits. Such integrations have been applied across many systems. Research by [12] on AIS mobile acceptance found that Information, System, and Service Quality, Perceived Usefulness, and Perceived Ease of Use all influenced user acceptance. On the Moodle e-learning platform [13], Information Quality affected Perceived Ease of Use and Satisfaction, while Perceived Usefulness most strongly influenced Satisfaction and Behavioral Intention. A mobile-banking study [14] found that System Quality, Service Quality, and Perceived Usefulness affected Satisfaction, whereas Information Quality and Perceived Security did not. These studies show the integrated model can evaluate information system success, though findings vary with the research object and the structural relationships examined.

Most prior studies treat User Satisfaction and Behavioral Intention to Use as the final outcomes. Yet system success also depends on the benefits realized after use, captured by the Net Benefit construct. When the integrated model stops at intention, the causal chain linking perceptions (TAM) and quality (DeLone and McLean) to actual benefit stays open; extending it to Net Benefit closes this gap and lets the analysis test whether satisfaction translates into tangible benefit. This matters in digital banking, where homogeneous core features may make perceived usefulness an expected baseline rather than a differentiating driver. We therefore expect, and revisit at H4 and H5, that perceived usefulness shapes user satisfaction but has little direct effect on behavioral intention, acting through satisfaction rather than directly. Accordingly, this study integrates the DeLone and McLean model and TAM with the Net Benefit construct and analyzes each construct's influence on the success of the Bank Jago application using PLS-SEM, with Bank Jago as a high-adoption empirical setting in which to examine this proposition.

## 2. RESEARCH METHOD

A thorough summary of the steps and activities involved in this research process may be found in Figure 1, which shows the stages of study.

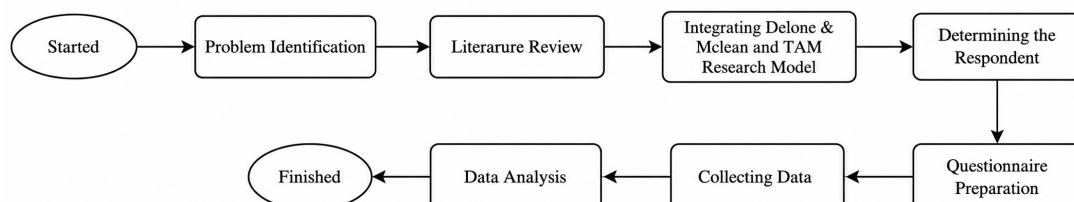


Figure 1. Research Stages

### 2.1 Problem Identification

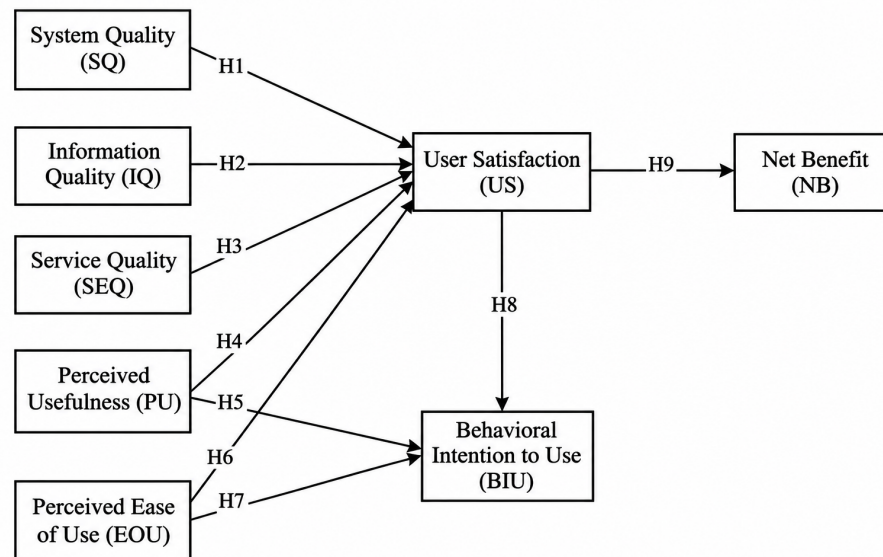
Problem identification, the initial stage, was carried out through observations and interviews with Bank Jago application users in Pekanbaru to identify issues experienced in using the application.

## 2.2 Literature Review

To construct the theoretical framework, select study variables and indicators, and create a conceptual framework that integrated the DeLone & McLean model with the Technology Acceptance Model (TAM), books, scientific journals, prior studies, and reliable web sources were examined.

## 2.3 Conceptual Model of Research

This study employs the DeLone & McLean model [9] as the main framework for assessing the success of information systems, which is then combined with the Technology Acceptance Model (TAM) by adding three particular factors from the latter. In earlier research, the DeLone & McLean and TAM models have been extensively integrated, such as the studies conducted by [12] [13] [14].



**Figure 2.** Conceptual Model of Research

Based on the reviewed literature, the researcher used eight variables: System Quality, Information Quality, Service Quality, Net Benefit, User Satisfaction, Perceived Ease of Use, Perceived Usefulness, and Behavioral Intention to Use. The proposed research model and the relationships between the variables that form the hypotheses in this study can be seen in Figure 2. There are nine hypotheses in this study. System Quality refers to performance aspects such as security, accessibility, reliability, and responsiveness [15]. Users whose system outcomes meet expectations tend to be more satisfied [18].

**H1:** System Quality has a positive effect on User Satisfaction.

The availability, completeness, relevance, and correctness of data generated by systems are all aspects of information quality [10]. Previous studies report a positive effect on user satisfaction [16] [17].

**H2:** Information Quality has a positive effect on User Satisfaction

Service quality reflects a provider's ability to meet user needs through reliability, responsiveness, and empathy [19]. Research on digital banking demonstrates that user happiness is positively impacted [17] [20].

**H3:** Service Quality has a positive effect on User Satisfaction

The extent to which users think a technology improves their performance is known as perceived usefulness [14]. It has been demonstrated to enhance both user happiness and [20] [21]. Additionally, there is conflicting information about behavioral intention to use [22] [23], though evidence on the latter is mixed [34] [35].

**H4:** Perceived Usefulness has a positive effect on User Satisfaction

**H5:** Perceived Usefulness has a positive effect on Behavioral Intention to Use

The degree to which users think a system involves little effort is known as perceived ease of use. It has a favorable impact on user happiness [21] [24] and the purpose to utilize behavior [23] [22].

**H6:** Perceived Ease of Use has a positive effect on User Satisfaction

**H7:** Perceived Ease of Use has a positive effect on Behavioral Intention to Use

The degree of contentment felt after utilizing a system is known as user satisfaction. Users who are happy have greater intent to continue [24] [25]

**H8:** User Satisfaction has a positive effect on Behavioral Intention to Use

Net Benefit refers to gains in effectiveness, efficiency, and convenience from using the system [18]. Net advantages are improvements in the system's effectiveness, efficiency, and ease [26] [27]. It showed that net benefit is positively and significantly impacted by customer happiness.

**H9:** User Satisfaction has a positive effect on Net Benefit

## 2.4 Determining the Respondent

The population was all Bank Jago app users domiciled in Pekanbaru. Sampling used a non-probability accidental approach, in which respondents encountered by chance who were willing to participate and met the predetermined criteria could be included. It should be acknowledged that accidental sampling does not give every population member an equal chance of selection, which limits the representativeness of the sample and is a methodological limitation of this study. To reduce potential selection bias, respondents were screened before completing the questionnaire to confirm that they were active Bank Jago users residing in Pekanbaru. Because the population of Bank Jago users in Pekanbaru is not precisely known, The Lemeshow formula for an unknown population was used to determine the sample size, with a 10% margin of error and a 95% confidence level. According to the Lemeshow formula, the minimal sample size is as follows:

$$\begin{aligned}
 n &= \frac{z^2 \cdot p(1-p)}{d^2} \\
 n &= \frac{1.96^2 \cdot 0.5(1-0.5)}{0.10^2} \\
 n &= \frac{3.8416(0.25)}{0.01} \\
 n &= \frac{0.9604}{0.01} \\
 n &= 96.04 \approx 96 \text{ respondents}
 \end{aligned}$$

Four respondents were added to the 96 required, giving a total of 100 respondents, considered sufficient to represent the population [28].

The adequacy of the sample size was further evaluated using several established criteria for PLS-SEM. The construct with the largest number of predictors is User Satisfaction, which is predicted by five exogenous constructs. Based on the ten-times rule, the minimum required sample is  $10 \times 5 = 50$  respondents, and based on Green's (1991) formula ( $N \geq 50 + 8m$ ), the minimum is  $50 + 8 \times 5 = 90$  respondents. The achieved sample of 100 respondents satisfies both criteria. A post-hoc power analysis (F-test for the  $R^2$  deviation from zero,  $\alpha = 0.05$ ) further confirmed that all endogenous constructs attained statistical power close to 1.00, well above the recommended 0.80 threshold. Nevertheless, because the inverse-square-foot method (Kock and Hadaya, 2018) suggests that a larger sample would be required to reliably detect very small path coefficients, the relatively small sample size is acknowledged as a limitation of this study.

## 2.5 Questionnaire Development

A questionnaire based on the DeLone and McLean model and TAM indicators was used as the study tool. Each indication was modified from pertinent prior research and tailored to the Bank Jago setting. It measured the research variables using 31 statement items. In order to create a profile of Bank Jago users as the study object, the questionnaire included asked questions on the characteristics of the respondents. A five-point Likert scale, including Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5), was used to rate each statement item. To ensure that the measurement model is completely repeatable, the Appendix contains the complete list of the 31 items, arranged by construct and mapped to the original research from which each was modified.

## 2.6 Collecting Data

At this point, from September to November 2025, Bank Jago subscribers in Pekanbaru were given an online Google Forms questionnaire via social media and messaging apps. Respondents were made aware of the goal of the study and that participation was entirely optional prior to its commencement, confidential, and used solely for research; only those who agreed proceeded. Screening questions were embedded at the start of the form, so only respondents confirming they were active Bank Jago users in Pekanbaru could proceed. No personally identifiable information was collected; all responses were anonymous and used solely for academic purposes. The questionnaire captured demographic data and perceptions of the Bank Jago application based on the research variables. Of 128 responses received, 19 were removed for failing the active-user or Pekanbaru-residency criteria and 9 for being incomplete, leaving 100 valid responses. Because the link was distributed through the researchers' own social media and messaging networks, the sample likely over-represents their immediate contacts consistent with the young, student-heavy profile in Table 1 (57% aged 17-25; 32% students) and this is acknowledged as a limitation alongside the accidental-sampling concern. The links between the variables in the suggested research model were then examined by analyzing the 100 replies using Partial Least Squares Structural Equation Modeling (PLS-SEM).

## 2.7 Data Analysis

PLS-SEM was used in SmartPLS 4 after the data was first processed in Microsoft Excel 2016 for coding, cleaning, and descriptive analysis of the respondents' demographics. PLS-SEM was selected to analyze the integrated DeLone and McLean Information Systems Success Model and the Technology Acceptance Model (TAM) used in this study because it is suitable for prediction-oriented research with complex structural models, multiple latent constructs, and small-to-medium samples and does not require strict assumptions of multivariate normality [29]. Two phases of the PLS-SEM analysis were carried out: inner model evaluation and outward model evaluation.

The measurement model's validity and reliability were investigated by the outer model assessment. With acceptable levels of outer loading  $> 0.70$  and AVE  $> 0.50$ , convergent validity was assessed using indicator loadings and the Average Variance Extracted (AVE). Cross-loadings and the Heterotrait-Monotrait Ratio (HTMT) were used to evaluate discriminant validity; HTMT values less than 0.85 signify sufficient discriminant validity. Cronbach's Alpha and Composite dependability were used to assess construct dependability; values higher than 0.70 were deemed acceptable [30] [32]. The structural model (inner model) was assessed by looking at the coefficient of determination ( $R^2$ ), effect size ( $f^2$ ), and path coefficients to determine the model's predictive power and the strength of the relationships among latent constructs once the measurement model met the validity and reliability requirements. 5,000 resamples were used in the bootstrapping process for hypothesis testing. At a 95% confidence level, a structural link was deemed statistically significant if the t-statistic was greater than 1.96 and the p-value was less than 0.05 [30]. Additionally, Harman's single-factor test and a thorough collinearity (VIF) assessment were used to evaluate common method bias because all data came from a single self-reported instrument.

## 3. RESULT AND ANALYSIS

The research findings based on questionnaire data collected from 100 respondents are presented in the results and analysis section. The PLS-SEM approach was then used to analyze the data in order to determine the outcomes of both inner and outer model testing and to provide a scientific interpretation of the correlations between the variables.

### 3.1 The Result of Respondent Analysis Data

This stage was conducted to identify the profile of Bank Jago application users based on the results of the distributed questionnaires, as follows:

**Table 1.** User Respondent Profile

| Respondent Profile      | Total | Percentage |
|-------------------------|-------|------------|
| <b>Gender</b>           |       |            |
| Female                  | 54    | 54%        |
| Male                    | 46    | 46%        |
| <b>Age</b>              |       |            |
| 17-25 years             | 57    | 57%        |
| 26-30 years             | 24    | 24%        |
| 30-35 years             | 13    | 13%        |
| >35 years               | 6     | 6%         |
| <b>Occupation</b>       |       |            |
| Student                 | 32    | 32%        |
| Civil Servant           | 18    | 18%        |
| Private Employee        | 14    | 14%        |
| Freelancer              | 12    | 12%        |
| Entrepreneur            | 15    | 15%        |
| Others                  | 9     | 9%         |
| <b>Duration of Use</b>  |       |            |
| < 6 months              | 15    | 15%        |
| 6-12 months             | 22    | 22%        |
| 1-2 years               | 37    | 37%        |
| > 2 years               | 26    | 26%        |
| <b>Frequency of Use</b> |       |            |
| Almost every day        | 21    | 21%        |
| 3-4 times a week        | 35    | 35%        |
| About twice a week      | 28    | 28%        |
| About once a week       | 12    | 12%        |
| Only once a month       | 4     | 4%         |

The respondents' demographic details are shown in Table 1. 54% of respondents were female, 57% were between the ages of 17 and 25, and 32% were students. Most respondents had used the Bank Jago application for one to two years (37%) and accessed the application three to four times per week (35%). These characteristics indicate that the sample primarily represents young and active users who are familiar with digital banking services, making them appropriate respondents for evaluating the success of the Bank Jago application.

### 3.2 Common Method Bias

Two diagnostics were used to evaluate common method bias (CMB). A full-collinearity evaluation of the VIF of predictors in each structural equation was the main test; as Table 2 illustrates, all values were below the cautious criterion of 3.3 (maximum = 2.360). Harman's single-factor test yielded five factors with eigenvalues above one as an additional, weaker diagnostic; the largest factor accounted for 42.18% of the total variance, below the 50% cutoff. Both diagnostics show that there is no serious multicollinearity in the structural model and therefore CMB is not a worry.

**Table 2.** Results of the Full Collinearity (VIF) Assessment

| Endogenous Construct              | Predictor                   | VIF   |
|-----------------------------------|-----------------------------|-------|
| User Satisfaction (US)            | System Quality (SQ)         | 1.461 |
|                                   | Information Quality (IQ)    | 1.439 |
|                                   | Service Quality (SEQ)       | 1.515 |
|                                   | Perceived Usefulness (PU)   | 1.355 |
|                                   | Perceived Ease of Use (EOU) | 1.444 |
| Behavioral Intention to Use (BIU) | Perceived Usefulness (PU)   | 1.571 |
|                                   | Perceived Ease of Use (EOU) | 1.728 |
|                                   | User Satisfaction (US)      | 2.360 |
| Net Benefit (NB)                  | User Satisfaction (US)      | 1.000 |

These results confirm that common method bias is not a serious concern and that the structural model is free from problematic multicollinearity.

### 3.3 The Result of Outer Model Analysis

The link between latent variables and their indicators is ascertained by outer model analysis. Validity testing, which involves evaluating convergent validity using loading factor values and Average Variance Extracted (AVE) values, is the first step in the outer model evaluation. By looking at the cross-loading values, discriminant validity is assessed. Additionally, composite reliability values and Cronbach's alpha are used in reliability testing.

#### 3.3.1 Convergent Validity

The validity of the association between each indicator and its matching latent variable is evaluated using convergent validity. If an indicator's loading factor (outer loading) is larger than 0.70 and its Average Variance Extracted (AVE) value is greater than 0.50, it is said to have appropriate convergent validity. Additionally, reliability testing is used to assess how well a study tool can yield consistent measurement outcomes. Cronbach's Alpha and Composite Reliability values can be used to assess reliability. If a construct meets the reliability criteria and both its Cronbach's Alpha and Composite Reliability scores are more than 0.70, it is deemed reliable [29].

**Table 3.** Convergent Validity and Reliability Test Results

| Variable                          | Indicator | Outer Loading | Cronbach's alpha | Composite reliability | AVE   |
|-----------------------------------|-----------|---------------|------------------|-----------------------|-------|
| Behavioral Intention to Use (BIU) | BIU1      | 0.941         | 0.917            | 0.948                 | 0.858 |
|                                   | BIU2      | 0.906         |                  |                       |       |
|                                   | BIU3      | 0.931         |                  |                       |       |
| Perceived Ease of Use (EOU)       | EOU1      | 0.854         | 0.894            | 0.926                 | 0.758 |
|                                   | EOU2      | 0.880         |                  |                       |       |
|                                   | EOU3      | 0.858         |                  |                       |       |
|                                   | EOU4      | 0.891         |                  |                       |       |
| Information Quality (IQ)          | IQ1       | 0.831         | 0.891            | 0.920                 | 0.696 |
|                                   | IQ2       | 0.824         |                  |                       |       |
|                                   | IQ3       | 0.841         |                  |                       |       |
|                                   | IQ4       | 0.845         |                  |                       |       |
|                                   | IQ5       | 0.830         |                  |                       |       |
| Net Benefit (NB)                  | NB1       | 0.899         | 0.931            | 0.951                 | 0.829 |
|                                   | NB2       | 0.930         |                  |                       |       |
|                                   | NB3       | 0.925         |                  |                       |       |
|                                   | NB4       | 0.887         |                  |                       |       |

|                           |      |       |       |       |       |
|---------------------------|------|-------|-------|-------|-------|
| Perceived Usefulness (PU) | PU1  | 0.882 | 0.838 | 0.902 | 0.755 |
|                           | PU2  | 0.853 |       |       |       |
|                           | PU3  | 0.871 |       |       |       |
| Service Quality (SEQ)     | SEQ1 | 0.905 | 0.832 | 0.899 | 0.749 |
|                           | SEQ2 | 0.815 |       |       |       |
|                           | SEQ3 | 0.874 |       |       |       |
| System Quality (SQ)       | SQ1  | 0.828 | 0.842 | 0.888 | 0.613 |
|                           | SQ2  | 0.810 |       |       |       |
|                           | SQ3  | 0.806 |       |       |       |
|                           | SQ4  | 0.737 |       |       |       |
|                           | SQ5  | 0.729 |       |       |       |
| User satisfaction (US)    | US1  | 0.847 | 0.899 | 0.930 | 0.769 |
|                           | US2  | 0.904 |       |       |       |
|                           | US3  | 0.901 |       |       |       |
|                           | US4  | 0.854 |       |       |       |

These results show that each measuring indication accurately captures the latent constructs associated with it. Consequently, the measurement model meets the criteria for internal consistency reliability and convergent validity, suggesting that the constructs are suitable for further structural model assessment.

### 3.3.2 Discriminant Validity

Every construct is guaranteed to be experimentally different from the others thanks to discriminant validity. The Heterotrait-Monotrait Ratio (HTMT), which should remain below 0.90 with HTMT < 0.85 as the optimal threshold, and cross-loadings, where each indication loaded most strongly on its own latent variable, were used to evaluate it [30], [31].

**Table 4.** Results of Discriminant Validity Test Based on HTMT Values

|     | BIU   | EOU   | IQ    | NB    | PU    | SEQ   | SQ    | US |
|-----|-------|-------|-------|-------|-------|-------|-------|----|
| BIU |       |       |       |       |       |       |       |    |
| EOU | 0.848 |       |       |       |       |       |       |    |
| IQ  | 0.417 | 0.475 |       |       |       |       |       |    |
| NB  | 0.649 | 0.539 | 0.561 |       |       |       |       |    |
| PU  | 0.541 | 0.406 | 0.408 | 0.755 |       |       |       |    |
| SEQ | 0.438 | 0.429 | 0.525 | 0.619 | 0.512 |       |       |    |
| SQ  | 0.523 | 0.513 | 0.421 | 0.715 | 0.448 | 0.522 |       |    |
| US  | 0.829 | 0.719 | 0.540 | 0.811 | 0.690 | 0.712 | 0.802 |    |

As shown in Table 4, all HTMT values fall below 0.85, confirming that each latent construct measures a distinct concept and is empirically distinguishable from the others; multicollinearity is addressed separately through the full-collinearity VIF assessment reported earlier. The highest value (0.848) occurs between Perceived Ease of Use and Behavioral Intention to Use.

### 3.4 The Result Analysis of Inner Model

The bootstrapping method in SmartPLS was used for testing during the structural model (inner model) analysis stage. The purpose of this study is to look at how the latent constructs in the research model relate to one another. Path coefficients, T-statistics, effect size ( $f^2$ ), and coefficient of determination ( $R^2$ ) are all evaluated as part of the inner model assessment.

#### 3.4.1 Coefficient of determination ( $R^2$ )

The  $R^2$  value of User Satisfaction (0.752) indicates that approximately 75.2% of the variance in User Satisfaction can be explained by the predictor variables included in the model[32].

**Table 5.** Results R-Square Test

| Variable                          | R-square | R-square Adjusted |
|-----------------------------------|----------|-------------------|
| Behavioral Intention to Use (BIU) | 0.706    | 0.697             |
| Net Benefit (NB)                  | 0.558    | 0.553             |
| User satisfaction (US)            | 0.752    | 0.739             |

According to Table 5's results, the User Satisfaction (US) construct had an  $R^2$  value of 0.752, meaning that System Quality, Information Quality, Service Quality, Perceived Usefulness, and Perceived Ease of Use account for about 75.2% of the variation in User Satisfaction. According to the standards put forth by Hair et al., this result shows significant explanatory power [33]. User satisfaction, perceived usefulness, and perceived ease

of use account for about 70.6% of the variance in users' intention to continue using the Bank Jago application, according to the Behavioral Intention to Use (BIU) construct's  $R^2$  value of 0.706. According to Hair et al. [33], this number suggests that the suggested model has strong predictive capacity in describing users' intention to continue, but it can also be taken as showing intermediate explanatory power. Additionally, the Net Benefit (NB) construct yielded an  $R^2$  value of 0.558, suggesting that User Satisfaction accounts for roughly 55.8% of the variation in the perceived benefits of utilizing the Bank Jago application.

This result demonstrates a moderate level of explanatory power and confirms that User Satisfaction is an important predictor of Net Benefit. It should be noted, however, that Net Benefit is modelled as a single-predictor endogenous construct, with User Satisfaction as its only antecedent. By construction, such a one-path structure tends to produce a high standardized coefficient ( $\beta = 0.747$ ) and a large effect size ( $f^2 = 1.261$ ); these figures are correct but partly reflect the model topology and should not be read as evidence that satisfaction is uniquely powerful relative to the multi-predictor constructs in the model. Overall, the  $R^2$  results indicate that the proposed research model possesses satisfactory predictive capability in explaining the endogenous constructs, particularly User Satisfaction, which achieved the highest explanatory power among the three endogenous variables.

### 3.4.2 Effect Size ( $f^2$ )

The contribution of each exogenous construct to the endogenous constructs in the structural model was assessed using the effect size ( $f^2$ ) analysis. The link between User Satisfaction and Net Benefit showed the biggest impact size ( $f^2 = 1.261$ ), as shown in Table 6, suggesting that User Satisfaction is the most significant predictor of the perceived benefits from utilizing the Bank Jago application. This result implies that increases in user satisfaction significantly boost the overall advantages that consumers perceive. The correlations between System Quality and User Satisfaction ( $f^2 = 0.367$ ) and Perceived Ease of Use and Behavioral Intention to Use ( $f^2 = 0.466$ ) also showed large effect values. These findings suggest that while system quality significantly increases user satisfaction, ease of use is a key factor in motivating users to stick with the service.

The correlations between perceived usefulness and user satisfaction ( $f^2 = 0.187$ ), perceived ease of use and user satisfaction ( $f^2 = 0.242$ ), and user satisfaction and behavioral intention to use ( $f^2 = 0.233$ ) were shown to have moderate effect sizes. These results imply that, despite having a smaller impact than the strongest correlations, these constructs provide significant contributions to the explanation of the endogenous variables. On the other hand, Information Quality on User Satisfaction ( $f^2 = 0.004$ ) and Perceived Usefulness on Behavioral Intention to Use ( $f^2 = 0.008$ ) revealed minimal effect sizes, while Service Quality showed a small influence on User Satisfaction ( $f^2 = 0.131$ ). The correlations between perceived usefulness and user satisfaction ( $f^2 = 0.187$ ), perceived ease of use and user satisfaction ( $f^2 = 0.242$ ), and user satisfaction and behavioral intention to use ( $f^2 = 0.233$ ) were shown to have moderate effect sizes [33].

**Table 6.** Results of the Effect Size ( $f^2$ )

| Hypothesis | Relationship          | Effect Size |
|------------|-----------------------|-------------|
| H1         | SQ $\rightarrow$ US   | 0.367       |
| H2         | IQ $\rightarrow$ US   | 0.004       |
| H3         | SEQ $\rightarrow$ US  | 0.131       |
| H4         | PU $\rightarrow$ US   | 0.187       |
| H5         | PU $\rightarrow$ BIU  | 0.008       |
| H6         | EOU $\rightarrow$ US  | 0.242       |
| H7         | EOU $\rightarrow$ BIU | 0.466       |
| H8         | US $\rightarrow$ BIU  | 0.233       |
| H9         | US $\rightarrow$ NB   | 1.261       |

Based on the effect size ( $f^2$ ) results, the relationship between US and NB exhibited the largest effect, with an  $f^2$  value of 1.261. In addition, the relationships between EOU and BIU, as well as SQ and US, demonstrated large effect sizes. Meanwhile, the relationships between EOU and US, PU and US, and US and BIU showed medium effect sizes. The relationship between SEQ and US had a small effect size. In contrast, the relationships between IQ and US and between PU and BIU exhibited very small effect sizes, indicating that their contributions to explaining the dependent constructs were relatively low.

### 3.4.3 Path Coefficients

The direction and strength of the structural links between the latent constructs in the suggested research model were assessed using the path coefficient analysis. All route coefficients are positive, as shown in Table 7, suggesting that increases in the respective endogenous constructs are linked to improvements in the exogenous constructions. The Bank Jago application's perceived advantages are mostly determined by user pleasure, as seen by the strongest direct association between Net Benefit and User pleasure ( $\beta = 0.747$ ). Additionally, there were strong positive correlations found between Perceived Ease of Use and Behavioral Intention to Use ( $\beta = 0.486$ )

and between User Satisfaction and Behavioral Intention to Use ( $\beta = 0.402$ ), suggesting that these factors are crucial in promoting users' intention to continue.

On the other hand, the weakest path coefficient was found in the link between Perceived Usefulness and Behavioral Intention to Use ( $\beta = 0.061$ ). The association was still positive, but it was much weaker than the other structural relationships. The bootstrapping method was then used to assess the statistical significance of these associations [33].

**Table 7.** Results of the Path Coefficient Test

| Hypothesis | Relationship          | Path Coefficient |
|------------|-----------------------|------------------|
| H1         | SQ $\rightarrow$ US   | 0.365            |
| H2         | IQ $\rightarrow$ US   | 0.036            |
| H3         | SEQ $\rightarrow$ US  | 0.222            |
| H4         | PU $\rightarrow$ US   | 0.251            |
| H5         | PU $\rightarrow$ BIU  | 0.061            |
| H6         | EOU $\rightarrow$ US  | 0.294            |
| H7         | EOU $\rightarrow$ BIU | 0.486            |
| H8         | US $\rightarrow$ BIU  | 0.402            |
| H9         | US $\rightarrow$ NB   | 0.747            |

Based on the path coefficient test results, all relationships between variables in the research model show a positive direction with varying levels of strength. The strongest relationship is shown by the influence of User Satisfaction on Net Benefit. Thus, all variables in the model have a positive influence on the other variables.

#### 3.4.4 T-statistic Test

Hypotheses were tested by bootstrapping, comparing the T-statistic with the T-table value of 1.96 at  $\alpha = 5\%$  (95% confidence). A hypothesis is accepted when  $T > 1.96$  and  $p < 0.05$  [29].

**Table 8.** Results of the T-statistic Test

| Hypothesis                | T-statistics | P-values | Description |
|---------------------------|--------------|----------|-------------|
| H1: SQ $\rightarrow$ US   | 6.431        | 0.000    | Accepted    |
| H2: IQ $\rightarrow$ US   | 0.545        | 0.586    | Rejected    |
| H3: SEQ $\rightarrow$ US  | 3.209        | 0.001    | Accepted    |
| H4: PU $\rightarrow$ US   | 3.710        | 0.000    | Accepted    |
| H5: PU $\rightarrow$ BIU  | 0.820        | 0.412    | Rejected    |
| H6: EOU $\rightarrow$ US  | 5.534        | 0.000    | Accepted    |
| H7: EOU $\rightarrow$ BIU | 7.696        | 0.000    | Accepted    |
| H8: US $\rightarrow$ BIU  | 4.795        | 0.000    | Accepted    |
| H9: US $\rightarrow$ NB   | 9.293        | 0.000    | Accepted    |

System quality has a favorable and considerable impact on user satisfaction, according to the analysis's findings (H1 approved). This result implies that user satisfaction increases with the BankJago application's system quality. System quality is a reflection of the application's capacity to offer consistent performance, user-friendliness, security, and responsiveness, allowing users to do financial operations more effectively and comfortably. User happiness will rise when the program can best serve the demands of the user. This outcome is in line with earlier research [16] [17], which discovered that user satisfaction is positively and significantly impacted by system quality.

In the meantime, user satisfaction is not considerably impacted by information quality (H2 rejected). Information quality no longer distinguishes satisfaction since users seem to view it as a fundamental element that is currently common and widely comparable across digital banking services. Rather, users concentrate on the total experience, which includes system quality, service quality, and convenience of use; hence, happiness cannot be solely dependent on more comprehensive information. This outcome is in line with other research [14] [20] which found that Information Quality does not have a significant effect on User Satisfaction. customer satisfaction is positively and significantly impacted by service quality (H3 accepted), suggesting that dependable and responsive services that demonstrate the provider's capacity to satisfy customer needs make for a more comfortable experience, which in turn raises satisfaction. This outcome is in line with earlier research [17] [20], which discovered that service quality significantly and favorably affects user satisfaction. User satisfaction is positively and significantly impacted by perceived usefulness (H4 acknowledged). Users are typically happier when they see tangible advantages like quicker transactions and time savings that improve the efficiency of banking operations. This outcome is in line with earlier research [20] [21], which discovered that user satisfaction is positively and significantly impacted by perceived usefulness.

On the other hand, whereas Perceived Usefulness has a large impact on User Satisfaction (H4 approved), it has no significant impact on Behavioral Intention to Use (H5 refused). This difference is supported by the effect sizes, which show that Perceived Usefulness has a medium-level contribution to User Satisfaction ( $f^2 = 0.187$ ) but a negligible contribution to Behavioral Intention ( $f^2 = 0.008$ ). One possible explanation is that, rather than directly influencing continuing intention, perceived usefulness does it indirectly through user happiness. An indirect-effect estimate supports this interpretation: the product of the significant paths User Satisfaction  $\rightarrow$  Behavioral Intention to Use ( $\beta = 0.402$ ) and Perceived Usefulness  $\rightarrow$  User Satisfaction ( $\beta = 0.251$ ) results in an indirect effect of roughly 0.101, which is greater than the non-significant direct path ( $\beta = 0.061$ ). The trend is consistent with full mediation, which channels the impact of perceived usefulness on continuing intention through user satisfaction, since both constituent paths are statistically significant but the direct path is not. Instead of explicitly attaching a significance level and confidence range to the estimate, future confirmatory work is advised to use a formal bootstrap test of this particular indirect impact. Usefulness may be viewed as an expected baseline that influences customers' satisfaction levels rather than as a compelling reason to stick with a specific program because basic banking functionality is generally identical across competing applications. This outcome is in line with other research [34] [35], which discovered that behavioral intention to use is not significantly impacted by perceived usefulness.

User satisfaction is positively and significantly impacted by perceived ease of use (H6 acknowledged). An application that is simple to use and comprehend results in a more pleasant interaction, which raises satisfaction. This outcome is in line with other research [21] [24], which discovered that user satisfaction is positively and significantly impacted by perceived ease of use. As a result, user happiness increases with program usability. Consequently, the easier the application is to use, the higher the level of user satisfaction. Perceived Ease of Use also has a positive and significant effect on Behavioral Intention to Use (H7 accepted). Because an easy-to-operate application supports banking activities more conveniently and efficiently, users are more inclined to continue using it. This result is consistent with previous studies [23] [22], which found that Perceived Ease of Use has a positive and significant effect on Behavioral Intention to Use. As a result, consumers are more likely to stick with the Bank Jago program if it is simple to use. In line with other research [25] [26] user satisfaction has a positive and significant impact on behavioral intention to use (H8 accepted): users who are pleased with the application's performance and service have a stronger desire to keep using it. Lastly, the model's strongest link, Net Benefit, is positively and significantly impacted by User Satisfaction (H9 accepted). Benefits including increased transaction efficiency, simpler service access, and a better overall experience are all experienced by satisfied users. This outcome is in line with other research [24] [27], which discovered that Net Benefit is positively and significantly impacted by user satisfaction.

#### 4. CONCLUSION

This study evaluated the success of the Bank Jago application by integrating the DeLone and McLean model with the Technology Acceptance Model (TAM) and extending it with the Net Benefit construct. Seven of the nine hypotheses were supported, while Information Quality did not significantly affect User Satisfaction and Perceived Usefulness did not directly influence Behavioral Intention to Use. This study demonstrates that extending the integrated DeLone-McLean and TAM framework with Net Benefit provides a more comprehensive evaluation of digital banking success by linking technology quality, user acceptance, and realized user outcomes. Rather than introducing a new methodology, the study contributes an empirical extension that shows User Satisfaction as the pivotal construct connecting system quality, user perceptions, and the realization of Net Benefit. Because the design is cross-sectional, these relationships are interpreted as associations rather than established causal conversions. Practically, Bank Jago should prioritize the strongest paths improving ease of use to strengthen continuance intention and sustaining satisfaction to maximize perceived benefits rather than information completeness. This maps onto the pain points raised in the introduction: slow login (an ease-of-use and system-quality issue) and limited QRIS functionality (a system- and service-quality gap constraining perceived benefit) warrant priority, while weak promotional information is reasonably deprioritized since information quality did not significantly drive satisfaction here. Addressing login speed and QRIS reliability should thus yield larger gains than expanding promotional content. The study is limited by its small sample (100 respondents), non-probability accidental sampling, and focus on Bank Jago users in Pekanbaru, so the findings are scoped to that population. Future studies should use larger, more representative samples from different regions and add constructs such as trust, perceived risk, privacy concern, and facilitating conditions to improve the explanatory power of the integrated model.

## 5. REFERENCES

- [1] N. Sharma and B. Singh, "Digital Banking : Transforming Consumer Habits in the Modern Financial Landscape," *Current Research Review*, vol. II, no. 1, pp. 76–87, 2024, doi: 10.21844/crr.v2i01.1124.
- [2] R. I. T. Linggadjaya, B. Sitio, and P. Situmorang, "Digital Transformation of PT Bank Jago Tbk from Conventional Bank to Digital Bank," *International Journal of Digital Entrepreneurship and Business*, vol. 3, no. 1, pp. 9–22, 2022, doi: 10.52238/ideb.v3i1.76.
- [3] E. Siska, "Digital Bank Financial Performance Analysis at PT Bank Jago Tbk.: Economic Value Added (Eva) Approach," *Ekonomi Dan Bisnis*, vol. 10, no. 2, pp. 17–30, 2023, doi: 10.35590/jeb.v10i2.6286.
- [4] R. Nurshary, "Analysis of Financial Technology Business Innovation : A Case Study of Bank Jago," *Enigma in Economics*, vol. 2, no. 1, pp. 81–85, 2024, doi: 10.61996/economy.v2i1.33.
- [5] Bank Jago, "Kontak Kami," Bank Jago. Accessed: Apr. 17, 2026. [Online]. Available: <https://www.jago.com/id/contact>
- [6] D. Angelia, "10 Bank Digital Paling Banyak Digunakan Masyarakat Indonesia 2022," goodstats.id. Accessed: May 25, 2025. [Online]. Available: <https://goodstats.id/article/10-bank-digital-paling-banyak-digunakan-masyarakat-indonesia-tahun-2022-HINLw>
- [7] G. Pratama, "Ini 3 Bank Digital yang Paling Banyak Dipilih Gen Z," Infobanknews. Accessed: Jun. 10, 2025. [Online]. Available: <https://infobanknews.com/ini-3-bank-digital-yang-paling-banyak-dipilih-gen-z/>
- [8] N. Safitri, "Model Kesuksesan Sistem Teknologi Informasi Delone & McLean pada Sistem Informasi Pengelolaan Proyek," *INFORMATICS FOR EDUCATORS AND PROFESSIONAL: Journal of Informatics*, vol. 4, no. 2, pp. 173–182, 2020, doi: 10.51211/itbi.v4i2.1346.
- [9] "The DeLone and McLean Model of Information Systems Success: A Ten-Year Update," *Journal of Management Information Systems*, vol. 19, no. 4, pp. 9–30, Apr. 2003, doi: 10.1080/07421222.2003.11045748.
- [10] W. H. DeLone and E. R. McLean, "Information Systems Success Measurement," *Foundations and Trends in Information Systems*, vol. 2, no. 1, pp. 1–116, Aug. 2016, doi: 10.1561/29000000005.
- [11] F. D. Davis and V. Venkatesh, "A critical assessment of potential measurement biases in the technology acceptance model: three experiments," *Int. J. Hum. Comput. Stud.*, vol. 45, no. 1, pp. 19–45, 1996, doi: 10.1006/ijhc.1996.0040.
- [12] N. A. Hidayah, N. Hasanati, R. Novela Putri, K. Fiqry Musa, Z. Nihayah, and A. Muin, "Analysis Using the Technology Acceptance Model (TAM) and DeLone McLean Information System (DM IS) Success Model of AIS Mobile User Acceptance," in *2020 8th International Conference on Cyber and IT Service Management (CITSM)*, 2020, pp. 1–4. doi: 10.1109/CITSM50537.2020.9268859.
- [13] D. Legramante, A. Azevedo, and J. M. Azevedo, "Integration of the technology acceptance model and the information systems success model in the analysis of Moodle ' s satisfaction and continuity of use," *International Journal of Information and Learning Technology*, vol. 40, no. 5, pp. 467–484, 2023, doi: 10.1108/IJILT-12-2022-0231.
- [14] N. Vaddhano, "Continuance Intention of Mobile Banking Applications in Indonesia : Integrated TAM-Delone and Mclean Model," *International Journal of Economics, Business and Management Research*, vol. 7, no. 12, pp. 1–22, 2023, doi: <https://doi.org/10.51505/IJEBMR.2023.71201>.
- [15] Y. Kendle and B. Chipangura, "Evaluating the success of a mobile self-service application using the DeLone and McLean model," *S. Afr. J. Inf. Manag.*, vol. 26, no. 1, pp. 1–8, 2024, doi: 10.4102/sajim.v26i1.1835.
- [16] U. A. Utari and Y. Fauziah, "Analysis of Factors Affecting Intention to Use and User Satisfaction of Paylater Using DeLone & McLean Adoption Model," *Telematika: Jurnal Informatika dan Teknologi Informasi*, vol. 20, no. 3, pp. 343–361, 2023, doi: 10.31515/telematika.v20i3.10643.
- [17] E. N. Dianti and E. Sugiharti, "Analysis of Application Success in XYZ Agency as an Online Learning Media Using the Delone and Mclean Models," *Journal of Advances in Information Systems and Technology*, vol. 5, no. 1, pp. 76–90, Jul. 2023, doi: 10.15294/jaist.v5i1.65794.
- [18] A. A. Purwati, Z. Mustafa, and M. M. Deli, "Management Information System in Evaluation of Bca Mobile Banking Using Delone and Mclean Model," *Journal of Applied Engineering and Technological Science (JAETS)*, vol. 2, no. 2, pp. 70–77, 2021, doi: 10.37385/jaets.v2i2.217.
- [19] S. Zygiaris, Z. Hameed, M. A. Alsubaie, and S. U. Rehman, "Service Quality and Customer Satisfaction in the Post Pandemic World : A Study of Saudi Auto Care Industry," *Front. Psycho*, vol. 13, no. 842141, pp. 1–9, 2022, doi: 10.3389/fpsyg.2022.842141.
- [20] W. H. Herviana and Z. Abidin, "Evaluating User Continuance Intentions for QRIS Mobile Payments Services Using Information System Success Model and Expectation Confirmation Model," *Journal of Advances in Information Systems and Technology*, vol. 6, no. April, pp. 87–105, 2024, doi: 10.15294/jaist.v6i1.2398.

- [21] Rosdiana, I. V. Paputungan, and A. Luthfi, "Integration of DeLone and McLean ISSM to Evaluate the Quality Waste Bank Application," *Jurnal Teknologi Dan Sistem Informasi Bisnis*, vol. 6, no. 4, pp. 723–731, 2024, doi: 10.47233/jteksis.v6i4.1583.
- [22] A. M. Musyaffi, R. J. Johari, I. Rosnidah, D. K. Respati, C. W. Wolor, and M. Yusuf, "Understanding Digital Banking Adoption During Post-Coronavirus Pandemic : An Integration of Technology Readiness and Technology Acceptance Model," *TEM Journal*, vol. 11, no. 2, pp. 683–694, 2022, doi: 10.18421/TEM112.
- [23] H. D. Ramadhan and D. A. Efriandita, "Analysis of User Readiness and Acceptance of SeaBank Indonesia Using the Technology Readiness and Acceptance Model ( TRAM ) Approach," *JAIST: Journal of Advances in Information Systems and Technology*, vol. 7, no. 1, pp. 115–131, 2025, doi: 10.15294/jaist.v7i1.15423.
- [24] B. P. Pradana, A. Wulansari, and E. M. Safitri, "The Influence of the Success of the Surabaya Citizens' Love Application using TAM and Delone Mclean," *Sistemasi: Jurnal Sistem Informasi*, vol. 13, no. 5, pp. 2277–2285, 2024, doi: 10.32520/stmsi.v13i5.4609.
- [25] N. Syifa and V. Tohang, "The Use Of E-Wallet System," in *2020 International Conference on Information Management and Technology (ICIMTech)*, 2020, pp. 342–347. doi: 10.1109/ICIMTech50083.2020.9211213.
- [26] E. Simaremare, S. Mukaromah, and A. Wulansari, "Evaluasi Kepuasan Penggunaan Learning Management System Canvas Pada Mahasiswa MSIB Menggunakan Model TAM Dan Model ISSM," *Jurnal Informatika Dan Teknik Elektro Terapan*, vol. 12, no. 3, pp. 2825–2833, 2024, doi: 10.23960/jitet.v12i3.4918.
- [27] H. ayu Setia, A. Faroqi, and V. R. Aulia, "Evaluation of HRMS Success Using DeLone & McLean," *Jurnal Teknologi Dan Open Source*, vol. 8, no. 2, pp. 529–538, 2025, doi: 10.36378/jtos.v8i2.4698.
- [28] M. Rofiudin, Moh. Shabry, and N. Juniarsa, "Pengaruh Harga Dan Fitur Layanan Terhadap Minat Beli Konsumen Tokopedia Pasca Covid 19 di Malang Raya," *INSPIRASI: Jurnal Ilmu-ilmu Sosial*, vol. 19, no. 2, pp. 721–730, 2022, doi: 10.29100/insp.v19i2.3681.
- [29] J. F. Hair, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, "Evaluation of Reflective Measurement Models," in *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook*, Cham: Springer International Publishing, 2021, pp. 75–90. doi: 10.1007/978-3-030-80519-7\_4.
- [30] J. K. E. Edumadze and D. W. Govender, "The community of inquiry as a tool for measuring student engagement in blended massive open online courses ( MOOCs ): a case study of university students in a developing country," *Smart Learning Environments*, vol. 11, no. 19, 2024, doi: 10.1186/s40561-024-00306-9.
- [31] M. Akhter, A. Ahmed, A. Momen, N. Sultana, S. Sultana, and F. Ferdousi, "Determinants of online merchants' satisfaction on third party logistics in a developing nation : a partial least square ( PLS ) approach," *Cogent Business & Management*, vol. 11, no. 1, p., 2024, doi: 10.1080/23311975.2024.2382338.
- [32] M. Tilahun, E. Berhan, and G. Tesfaye, "Determinants of consumers' purchase intention on digital business model platform: evidence from Ethiopia using partial least square structural equation model (PLS-SEM) technique," *J. Innov. Entrep.*, vol. 12, no. 1, p. 50, 2023, doi: 10.1186/s13731-023-00323-x.
- [33] J. F. Hair, M. C. Howard, and C. Nitzl, "Assessing measurement model quality in PLS-SEM using confirmatory composite analysis," *J. Bus. Res.*, vol. 109, pp. 101–110, 2020, doi: 10.1016/j.jbusres.2019.11.069.
- [34] M. Mailizar, D. Burg, and S. Maulina, "Examining university students' behavioural intention to use e-learning during the COVID-19 pandemic: An extended TAM model," *Educ. Inf. Technol. (Dordr.)*, vol. 26, no. 6, pp. 7057–7077, 2021, doi: 10.1007/s10639-021-10557-5.
- [35] P. Meliana, N. Mutiah, and S. Rahmayuda, "User Acceptance Analysis Dana Application E-Wallet Using UTAUT 2 and UX TAM," *Jurnal Sisfokom (Sistem Informasi dan Komputer)*, vol. 12, no. 3, pp. 408–414, Nov. 2023, doi: 10.32736/sisfokom.v12i3.1750.