



Factors affecting user satisfaction and trust in the use of digital pawnshop service applications

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ABSTRACT

Background: The swift expansion of digital financial services has heightened the significance of comprehending the elements that influence customer satisfaction and trust, especially in fintech applications. This study investigates the impact of User Experience (UX), Security (SE), and Accessibility (AC) on User Satisfaction (US) and User Trust (UT) in the Pegadaian Digital Service application. **Methods:** A quantitative approach was employed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). Data were collected from 325 users of the Pegadaian Digital Service application in Indonesia. The analysis included evaluation of both the measurement model (outer model) and the structural model (inner model) to assess the validity, reliability, and relationships among the constructs. **Findings:** The results demonstrate that all constructs are valid and reliable. User Experience, Security, and Accessibility jointly explain 37.2% of the variance in User Satisfaction and 45.3% of the variance in User Trust. Security and Accessibility have significant positive effects on both User Satisfaction and User Trust, with Security showing the strongest influence on User Trust. Conversely, User Experience does not have a significant effect on either User Satisfaction or User Trust. **Conclusion:** The findings indicate that users of digital financial services prioritize security and accessibility over interface-related experiences when evaluating service quality. Therefore, improving security systems and enhancing accessibility are critical strategies for increasing user satisfaction and building sustainable user trust in digital financial services. **Novelty/Originality of this Article:** This study offers a novel contribution by simultaneously integrating User Experience, Security, and Accessibility within a single research framework to examine their effects on User Satisfaction and User Trust in the context of a digital pawnshop application. The findings highlight that functional factors, particularly security and accessibility, are more influential than user experience in shaping users' satisfaction and trust.

KEYWORDS: application; digital pawnshop; pawnshop.

1. Introduction

Digital transformation in the financial sector has driven significant changes to pawnshop services in Indonesia, where Pegadaian Digital Service (PDS) is one of the main innovations to meet people's needs for fast, secure, and accessible services. The growth of millions of users and the increase in transaction volume show the outstanding potential of this application, but various challenges related to user experience, security, and

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accessibility are still issues that affect user satisfaction and trust. PT Pegadaian reported that in 2023 the volume of digital pawn transactions reached IDR 14.54 trillion, with the number of application users reaching 6.5 million, growing 72% and 14% on an annual basis (Puspaningtyas, 2024; Harianto, 2024). In the same year, Pegadaian scored a net profit of IDR 4.38 trillion, assets reached IDR 82.6 trillion, and turnover increased to IDR 205.2 trillion, indicating strong financial performance and adoption of digital services (Pratiwi, 2024).

Based on information processed by kimola.com, who analyzed reviews and ratings from users of Tring! By Pegadaian. The user ratings of the Pegadaian Digital application vary but tend to be in the average range of 3.3 to 3.7 on Tring! By Pegadaian on the Google Play Store, it shows mixed reviews; many appreciate the ease of transactions, but often there are complaints related to technical issues such as errors, login difficulties, failed top-ups, or sub-optimal features, which have an impact on the overall user experience (UX). Based on the detailed ratings and reviews found, the Google Play Store (average around 3.3 - 3.7) and App Store (around 2.6) platforms. The findings of positive sentiment of users like the ease of online transactions and access to Pegadaian services in the palm of your hand. Common complaints include usability and user experience, stating that the app is considered less user-friendly or slow. A number of technical issues that have been successfully collected are errors during top-ups (such as G-Cash), failed account upgrades, or gold savings balances not entered. For accessibility on the app, users have difficulty logging in or verifying emails.

User Experience is a crucial aspect in the success of digital service applications, including Pegadaian Digital Service. Based on the findings, many users reported difficulties in navigating and using the app effectively. A less intuitive interface causes users to experience technological stress, which has an impact on low engagement and app adoption. Technical issues such as errors and transaction failures further worsen the user experience, creating frustration and lowering overall satisfaction. Demographic factors also influence this experience; young users tend to be more adaptable than older users, who often experience barriers due to low digital literacy. This shows that app design must consider the diversity of users in order to provide an inclusive and enjoyable experience (Putri et al., 2025; Timur et al., 2024; Trotta et al., 2026). This application functions like a digital banking service (mobile banking), allowing customers to access Pegadaian products and services without having to come directly to the branch office physically. All transactions carried out are supervised by the Financial Services Authority/ *Otoritas Jasa Keuangan* (OJK), ensuring the security of customer data and funds. User Experience (UX) can be interpreted as an individual's emotions and attitudes towards the use of a particular application, system, or service. This includes perceptions of usability, ease of use, and performance. The design of digital pawnshop services should focus on the needs and interests of users, ensuring intuitive navigation and clear delivery of important information (Riansyah et al., 2024). Users prefer features that make transactions easier, such as quick access to information and an efficient process for pawning or redeeming items. This efficiency contributes to a sense of trust and confidence in the service (Wiryawan et al., 2024; Halim, 2025). Traditional pawnshops rely on in-person interaction, while digital pawnshops must create an engaging online experience. These changes necessitate a focus on digital interfaces that can mimic the personal experience touch of in-person services (Campiranon, 2022). Digital pawnshops can implement a real-time feedback system to collect user insights and improve services on an ongoing basis, a feature that is less possible in traditional pawnshops (Halim, 2025; Zhao et al., 2025).

Security is the main concern in using the Pegadaian Digital Service application because this application handles sensitive information related to financial transactions. User concerns include personal data protection, cybersecurity, and user consent to data management. If security aspects are not handled properly, the risk of data leaks and cyberattacks can undermine users' trust in the service. In the context of digital financial services, trust is the main foundation, so the implementation of strong security protocols such as data encryption, double authentication, and transparent privacy policies is essential.

Without adequate security guarantees, users will be reluctant to use this service on a regular basis, which ultimately hinders Pegadaian's digital transformation (Minssen & Gerke, 2023; Hanif et al., 2021). Security includes several critical aspects to ensure the protection of sensitive information and the integrity of transactions. Ensure that sensitive user data, such as personal and financial information, is protected from unauthorized access and disclosure (Goyal & Sharma, 2019). Protect data from unauthorized access or alteration to ensure the accuracy and reliability of that data (Goyal & Sharma, 2019). Ensure that data and services are accessible to authorized users when needed, and prevent disruptions caused by cyberattacks or system failures (Goyal & Sharma, 2019). Digital pawnshop services must address privacy concerns, especially the risk of re-identification and location inference from user data. Effective privacy preservation models, such as k-anonymity and differential privacy, are essential to mitigate these risks (Riyana & Harnsamut, 2025). Security in digital pawn shops mainly refers to the measures taken to protect sensitive information from unauthorized access, manipulation, or misuse. This includes protecting customer data and ensuring that transactions are conducted securely. Effective security measures involve encryption, authentication, and authorization protocols to maintain user trust and protect digital assets from cyber threats (Malik, 2024). Digital pawnshops operate under various regulatory frameworks that govern security measures. For example, the Financial Services Authority's regulations require companies to register and adhere to certain operational standards, which include security protocols to protect customer information and ensure transparent and fair practices (Badriyah et al., 2020). Digital pawnshops utilize advanced technology to increase security. This includes the use of blockchain for transaction integrity and transparency, which helps prevent unauthorized access and fraud (Bawankar et al., 2025; Turjo et al., 2021). Additionally, smart contracts can automate and secure transactions, ensuring that conditions are met without the need for intermediaries, thereby reducing the risk of human error or fraud (Bawankar et al., 2025; Turjo et al., 2021). By implementing strong security measures and adhering to regulatory frameworks, digital pawn shops can increase user credibility and protect sensitive information effectively. The continued development of cyber threats emphasizes the importance of adopting proactive and adaptive security strategies to protect both businesses and their customers (Osari & Singhai, 2025; Ankush et al., 2025).

Accessibility is a significant challenge in the implementation of the Pegadaian Digital Service application. Not all users have adequate access to technological devices and a stable internet connection. People who are in remote areas or have economic limitations often find it difficult to make optimal use of this application. In addition, low digital literacy among some users adds to the barriers to using the application. This condition creates a digital divide that has the potential to widen inequalities in access to financial services. Therefore, Pegadaian needs to develop an inclusive strategy, such as providing lightweight features, digital education, and offline support, so that services can reach all levels of society (Vashisth et al., 2024). Accessibility in the context of digital pawnshop services can be understood as the extent to which these services are designed and developed to be used by as many people as possible, including those with disabilities. This involves ensuring that digital platforms and services are inclusive and can be accessed and utilized effectively by individuals regardless of their physical, sensory, cognitive, or motor abilities. Digital accessibility involves creating services that can be used without barriers by individuals with disabilities. This includes the use of assistive technologies such as text readers that can be read by users with visual impairments. Digital accessibility involves creating services that can be used without barriers by individuals with disabilities (Ntoa et al., 2024; Leite et al., 2021; Nacheva, 2024). This includes the use of assistive technologies such as screen readers for users with visual impairments (Nacheva, 2024). Accessibility aims to remove barriers that prevent people from using digital services. This can involve customizing interactions to meet the needs of diverse users, such as customizable features in digital games (Carvalho et al., 2024). Accessibility should be user-oriented, ensuring that the user's needs and preferences match the service offering. This includes considering a wide range of user

conditions and ensuring that services can be adapted to different contexts (Wang & Wang, 2025). It is the practice of designing digital products and services to be used by people with diverse abilities, ensuring that individuals with disabilities can access and utilize these services without barriers (Aljedaani et al., 2025). This includes consideration of physical, cognitive, and sensory impairments. Accessibility in digital pawnshop services involves the design of inclusive and seamless digital services, which meet the diverse needs of all users, including those with disabilities.

User Satisfaction is an indicator of the success of digital applications. However, various issues found, such as user-friendly interfaces, technical glitches, and security concerns, negatively impacted the level of user satisfaction of Pegadaian Digital Service. Users who experience transaction failures or navigation difficulties tend to lose trust and are reluctant to use the app again. User satisfaction is not only influenced by technical functionality but also by the perception of security and ease of access. To increase satisfaction, Pegadaian must focus on improving interface design, improving system stability, and implementing high security standards. Thus, the app can provide a better experience and build user loyalty (Minssen & Gerke, 2023; Putri et al., 2025; Timur et al., 2024; Vashisth et al., 2024). To define user satisfaction in the context of digital pawnshop services, researchers can draw insights from various studies on user satisfaction in digital services and related sectors. User satisfaction in digital pawnshop services is determined by the quality of service (responsiveness, reliability, assurance, tangibles, and empathy) (Amenta et al., 2021) psychological factors (Thach et al., 2025; Tuong et al., 2025), and user interface (UI) design (Singh & Kumar, 2025) and user experience (UX) (Singh & Kumar, 2025) effective. Measuring satisfaction through established metrics and understanding its correlation with customer loyalty is essential (Bentang et al., 2025; Dyatmika et al., 2025) to developing a successful business strategy in the digital lending market (Suroso & Wahjudi, 2021; Apaza-Chullunquia et al., 2025). To define user trust in the context of digital pawnshop services, researchers can refer to the broader concept of trust in digital environments and online services. Users' trust in digital pawnshop services can be defined as users' confidence in the platform's ability to protect their interests, ensure data security, and provide reliable services. This trust is built on two dimensions of trust, namely the cognitive dimension (rational assessment of the reliability of the platform) and the emotional dimension (feeling safe and secure), which is essential for user satisfaction and engagement in the digital environment (Oesterreich et al., 2025; Guo, 2022).

A gap in previous research found that analysis of user reviews showed a mix of positive and negative sentiment towards the app. Positive feedback often highlights beneficial features such as speed and ease of transactions, while negative sentiment highlights issues such as errors and difficulties in use (Timur et al., 2024). Digital pawnshop services represent a rapidly growing segment in financial technology, offering users a convenient, accessible, and secure alternative to traditional pawnshops. As these platforms grow, user satisfaction and trust are becoming critical determinants of adoption and loyalty. The interaction between user experience, security, and accessibility is central to shaping these outcomes, but research shows complex and sometimes conflicting effects, especially when it comes to service quality dimensions such as empathy and responsiveness. These findings synthesize the latest evidence, highlight research gaps, and propose directions to optimize user satisfaction and trust in digital pawnshop services (Khan et al., 2025).

The implications of this research are very important for the development of digital financial service platforms, especially Pegadaian Digital Service. The findings on the influence of User Experience, Security, and Accessibility on User Satisfaction and User Trust show that companies should prioritize intuitive interface design, strengthen data security systems, and improve accessibility for users with limited technology or digital literacy. The implementation of this strategy will not only increase user satisfaction and trust but also encourage wider adoption of digital services, strengthen user loyalty, and support financial inclusion in Indonesia.

This research presents a novelty through simultaneous testing of the influence of User Experience, Security, and Accessibility on User Satisfaction and User Trust in the context of using the Pegadaian Digital Service application in Indonesia. In contrast to previous studies that generally only focused on one or two variables, this study integrates three key dimensions of digital services and connects them to two critical outcomes (user satisfaction and trust). The main objective of this study is to solve the problem of low user satisfaction by testing the simultaneous influence of User Experience, Security, and Accessibility on User Satisfaction and User Trust. Through a quantitative approach using the SEM-PLS method on respondents who are application users, this study aims to measure the extent to which these variables contribute to the perception of users of the Pegadaian Digital Service application. Specifically, this study seeks to prove the hypothesis that increasing security and accessibility will directly increase customer trust and satisfaction.

2. Methods

2.1 Research design

The design of this study includes six main hypotheses that test the positive and significant relationships between these variables. This study uses a quantitative approach that aims to measure hypotheses and test the relationships between variables empirically. The design of this study is designed to test the influence of three independent variables, namely User Experience (UX), Security (SE), and Accessibility (AC), on two dependent variables, namely User Satisfaction (US) and User Trust (UT). In Figure 1, this model tries to map how technical and functional factors affect the psychological perception of Pegadaian Digital Service application users.

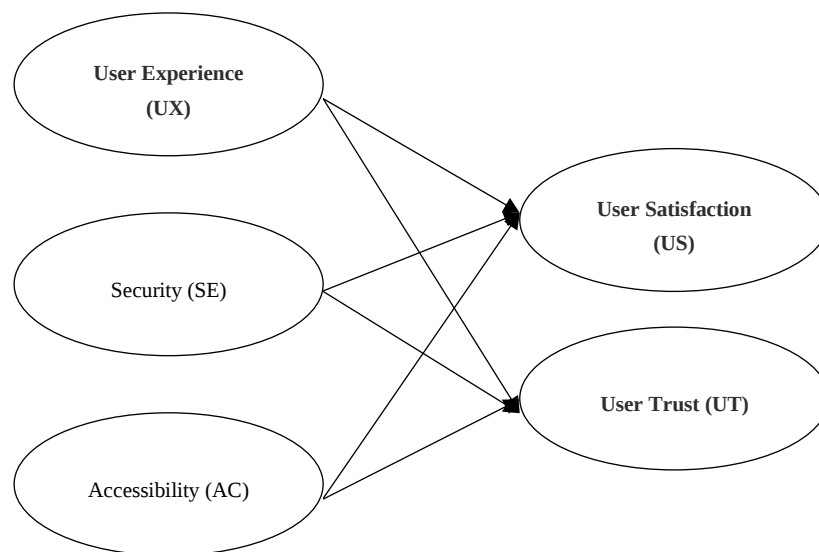


Fig. 1 Hypothesis design research model

2.2 Research hypotheses

2.2.1 User experience, security, accessibility and user satisfaction

H1a. User Experience has a significant positive influence on User Satisfaction. Studies on e-commerce sites show that UX designs that include intuitive navigation, attractive visuals, and speed of access directly increase user satisfaction (Kumar et al., 2023). Similar findings were reported in the context of digital library services, where UX and user satisfaction predicted more than 55% variation in intent to continue using the service (Kaba et al., 2024). In addition, a systematic review of 205 articles emphasized that UX factors such

as personalization, performance, and ease of use play an important role in increasing the acceptance and satisfaction of mobile app users. The consistency of these results shows that UX is not just an aesthetic element but a key determinant of user satisfaction in various digital domains.

H1b. Security has a significant positive influence on User Satisfaction. Previous research on digital platforms showed that the security aspect has a very significant relationship with user satisfaction, with a Spearman correlation $\rho = 0.681$ ($p < 0.01$). The study used 155 respondents and non-parametric statistical analysis (Mann-Whitney U, Kruskal-Wallis, Spearman) to show that enhanced security—such as encryption and authentication validation—has a direct impact on user satisfaction in the digital ecosystem (Lemon et al., 2024). In addition, a systematic review of usable security by previous researchers emphasized that security designs that prioritize ease of use (e.g., simple authentication, interactive instructions) can minimize user frustration and improve compliance, which indirectly drives user satisfaction. This review looks at 55 empirical studies examining the trade-offs between security and user experience, showing that a balance between the two aspects is really important for maintaining user comfort as well as trust.

H1c. Accessibility has a significant positive influence on User Satisfaction. In the past five years, Scopus-based research has shown that digital accessibility has a positive and significant influence on user satisfaction. Studies have reviewed the implementation of accessibility in business environments and found that the implementation of the Web Content Accessibility Guidelines (WCAG) standard not only expands market reach but also significantly increases user engagement and satisfaction (Abhichandani, 2025). These findings are in line with a systematic review by Bercaru & Popescu, 2024. Which identified that technologies such as speech-to-text, text-to-speech, and multimodal interfaces consistently facilitate a more inclusive experience, thereby improving user satisfaction, particularly for people with disabilities (Bercaru & Popescu, 2024). In addition, research by (Atata & Odedeyi, 2025) emphasizes the importance of adaptive interface design that allows for text size adjustment, voice control, and multimodal support. This study shows that the application of adaptive accessibility principles significantly increases user engagement and satisfaction compared to conventional interfaces (Atata & Odedeyi, 2025). Overall, this evidence confirms that accessibility is not just an aspect of regulatory compliance but is a strategic factor that determines the quality of experience and user satisfaction in digital services.

2.2.2 User experience, security, accessibility and user trust

H2a. User Experience has a significant positive influence on User Trust. Research by Bacha et al. (2024) in the International Journal of Human–Computer Interaction concluded that aspects Alof UX design, especially interactive features, transparency, feedback, and ease of user control, significantly increase user confidence in AI systems. From an analysis of 23 empirical studies, these UX factors have been shown to influence the perception of security and user comfort, which in turn leads to higher trust. In the realm of conversational agents, a review by Rheu highlights that UX design, such as communication style, agent social skills, and performance quality (responsiveness, accuracy), plays an important role in building user trust. They found five design themes that were consistently associated with increased trust in 29 experimental studies (Rheu et al., 2021).

H2b. Security has a significant positive influence on User Trust. Research by Ogbanufe & Baham (2023) at Information Systems Frontiers applies Protection Motivation Theory (PMT) to analyze user perceptions of Multi-Factor Authentication (MFA) in the context of online accounts. The study found that security implementations such as strong authentication and anticipated regret significantly increase user trust in digital systems. Furthermore, the research that has been carried out by Aldboush & Ferdous, 2023 in The International Journal of Financial Studies looks at how data privacy and transparency practices, including encryption and user control policies, build customer trust in the fintech

sector. A systematic review of 66 studies underlines that proactive security strategies and a commitment to data protection directly strengthen Customer Trust.

H2c. The effect of Accessibility is significantly positive on User Trust. A research study by Seixas Pereira & Duarte (2025) in Universal Access in the Information Society highlights that the evaluation and monitoring of digital accessibility through surveys and interviews with practitioners (27 respondents, 16 countries) revealed that technical compliance strengthened with a deep user-centric understanding significantly increases user confidence, proving that accessibility is not only about meeting regulations but also strengthening the perception of security and reliability of digital systems. Accessibility often improves the ease of use of apps for all users, not just those with disabilities (Spencer, 2024). Increased ease of use can increase user satisfaction, which is an important factor in building user trust (Alabdulrahman et al., 2025).

2.3 Data collection and respondent characteristics

This type of research is quantitative, where the research methodology uses numbers to collect and analyze data, with the aim of measuring research hypotheses, testing the relationships between variables, and producing data that can be generalized in real terms. The data collection process was carried out in September–December 2025; data was obtained from the collection of questionnaires in the form of a Google questionnaire form using a Likert scale of 1-5 from strongly disagree to strongly agree. The data collection technique in this study is random sampling. The source of the data is primary data from 325 respondents from users of the digital service pawnshop application. The characteristics of the respondents obtained in this study can be seen in table 1 below.

Table 1. Respondent characteristics

Gender	Age	Domicile	Application usage time
Male 120 people	Under 25 years old	DKI Jakarta totals 52 people	Under 1 Year Total 52 People
Female 205 people	totaling 37 people	West Java has 45 people	1 – 3 Years total of 145 people
	25 – 35 years old	East Java has 30 people	3 – 5 Years total of 105 people
	totaling 205 people	Central Java totals 33 people	Over 5 Years 23 people
	36 – 45 years old with 76 people	Banten totals 16 people	
	Over 45 years old	The others numbered 150 people	
	totaling 7 people		

2.4 Data analysis technique

The tool used to analyze this study is Structural Equation Modeling (SEM) using the Partial Least Square (PLS) program. Structural Equation Modeling (SEM) is a multivariate statistical analysis method developed from regression and path analysis. The tests carried out in this study include the outer model and inner model. The first step in the analysis of the external model is to verify the validity and reliability of the measurements. The study was evaluated based on four indicators: convergent validity, discriminant validity, composite reliability, and Cronbach's Alpha. Second, model analysis in explaining the correlation between latent variables based on basic theories. Evaluation of the model using PLS begins with checking the R-squared value for each dependent latent variable. The difference in R-squared values can assess the impact of a particular independent latent variable on the dependent latent variable, provided that there is a significant influence. Third, hypothesis testing can be evaluated using the T-statistic and P-value. For a significance level of 5%, the t-statistic value is 1.96. The hypothesis will be accepted or rejected based on the criteria that H_a is accepted and H_0 is rejected if the t-statistic exceeds 1.96. The null hypothesis will be rejected if the p-value is less than 0.05.

2.5 Variable measurement

In measuring User Experience, Security, and Accessibility to User Satisfaction and User Trust, this study uses several dimensions and indicators as follows. The measurement items for each construct were adapted from established literature and modified to fit the context of the Pegadaian Digital Service application. Table 2 presents the dimensions and indicators used to operationalize each research variable.

Table 2. The dimension and indicator of variables

Variabel	Dimension	Indicator
User Experience (UX)	Ease of Navigation	I find the Pegadaian Digital Service application easy to use
	Application Performance	The app's navigation is clear and not confusing
	Interface Design	The app's interface is attractive and comfortable to look at
	Personalization	The app provides a pleasant experience when transacting
	Feedback	I am satisfied with the speed and performance of this app
Security	Personal Data Protection	I believe my personal data is safe on this app
	Transaction Security	My transactions on this app are well protected.
	Authentication & Authorization	The app has a strong authentication system
	Policy Transparency	I believe this app is transparent in its security policy
	Protection against cyberattacks	I feel safe from cyber threats when using this app
Accessibility	Ease of access to technology	I can easily access this app using my device
	Inclusive design	The app supports different types of devices and internet connections.
	Adaptive Features	I didn't have any technical difficulties using this app
	WCAG Compliance	The app is friendly to users with physical limitations
	Digital Literacy	I feel that this app is inclusive for all
User satisfaction	Reliability	I am satisfied with the service provided by this application
	Responsiveness	This application met my expectations in transacting.
	Insurance	I feel comfortable using this app.
	Empathy	The app provides a satisfying experience.
	Tangible	I would recommend this app to others.
User trust	Cognitive beliefs	I believe this app is reliable
	Emotional Trust	I feel safe giving out personal information on this app.
	Information Transparency	This application is transparent in providing information to users.
	System Integrity	I believe this app maintains the integrity of its system.
	Security Perception	I believe this app protects my interests.

3. Results and Discussion

3.1 Outer model result

The outer model, more commonly known as a measurement model, is a part of statistical analysis measurement (especially in Structural Equation Modeling or SEM-PLS) that describes the relationship between latent variables in quantitative research (variables that cannot be measured directly) and indicators or question items for each variable or factor in a study. In this study, it was found that several items or indicators of variables were invalid because they were less than 0.7, including UX3 (0.631), UX5 (0.680), SE2 (0.728), SE3 (0.726), AC1 (0.608), AC2 (0.621), US4 (0.673), and US5 (0.720).

Table 3. Outer loading

Variables	Item	Accessibility (AC)	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Accessibility (AC)	AC3	0.748	0.618	0.797	0.567
	AC4	0.770			
	AC5	0.740			
Security (SE)	SE1	0.833	0.732	0.848	0.651
	SE4	0.792			
	SE5	0.795			
User Satisfaction (US)	US1	0.777	0.606	0.815	0.595
	US2	0.764			
	US3	0.774			
User Trust (UT)	UT1	0.791	0.706	0.836	0.629
	UT3	0.802			
	UT5	0.787			
User Experience (UX)	UX1	0.814	0.705	0.835	0.629
	UX2	0.822			
	UX4	0.740			

The convergent validity test aims to assess the extent to which the indicators in a latent construct are able to represent the measured construct consistently. The convergent validity in the Partial Least Square (PLS) approach was evaluated through two main criteria, namely the outer loading value and the Average Variance Extracted (AVE). An indicator is declared to be valid convergently if it has an outer loading value of ≥ 0.70 , while a latent construct is declared to meet the convergent validity if the AVE value is ≥ 0.50 . Based on the results of data processing in this research model as seen in table 2, all indicators in the constructs of User Experience (UX), Security (SE), Accessibility (AC), User Satisfaction (US), and User Trust (UT) show an outer loading value in the range of 0.740 to 0.833. These values have exceeded the recommended minimum, so each indicator can be said to have a strong contribution in explaining its respective latent variable. The UX1 through UX4 indicators have loads above 0.70, indicating that the user experience is consistently represented. Similarly, the indicators in the Security, Accessibility, User Satisfaction, and User Trust constructs all meet the criteria of convergent validity. With the fulfillment of an adequate outer loading value and the assumption of $AVE \geq 0.50$ for each construct, it can be concluded that the measurement model in this study has met the convergent validity, so that the indicators used are worthy of further analysis in the structural model.

The reliability test aims to assess the level of internal consistency of indicators in measuring a latent construct. In the test results conducted with SEM-PLS, the test results seen in table 2 were found that the reliability of the construct was evaluated using two main measures, namely Cronbach's Alpha and Composite Reliability (CR). A construct is declared reliable if the Cronbach's Alpha value is greater than 0.70. Based on the measurement results in this research model, all latent constructs, namely User Experience, Security, Accessibility, User Satisfaction, and User Trust, have high and relatively homogeneous

indicator external loading values, which statistically indicates good internal consistency. The high loading values of the indicators (mostly above 0.75) indicate that the variance of error is relatively low and that the indicators consistently measure the same construct. This implies that the Composite Reliability value of each construct is above the recommended threshold, as well as Cronbach's Alpha which has a threshold greater than 0.60. Thus, all constructs in this study can be said to be reliable, meaning that the measurement instruments used have a good level of stability and consistency in measuring respondents' perceptions of the user experience, security, accessibility, satisfaction, and trust of Pegadaian Digital Service application users.

The discriminant validity test aims to ensure that a latent construct is completely different and does not conceptually overlap with other latent constructs in the research model. The validity of the discriminant in SEM-PLS is generally evaluated using Fornell-Larcker criteria and cross-loading. Based on the cross-loading approach, an indicator is said to have good discriminant validity if the loading value of the original construct is higher than the loading value of other constructs. From the measurement results displayed on the model, all indicators have the highest loading in their respective measured constructs; for example, the UX indicator consistently has the highest loading value in the User Experience construct compared to other constructs such as Security, Accessibility, User Satisfaction, and User Trust. The same thing also happens in the indicators of Security, Accessibility, User Satisfaction, and User Trust. In addition, conceptually, each construct in this study has a different theoretical definition and does not overlap with each other, thus strengthening the separation between constructs. Thus, based on the cross-loading evaluation and the suitability of the theoretical concept, it can be concluded that the measurement model has met discriminant validity, which means that each latent variable is able to measure its construct uniquely and does not represent other constructs in the model.

Table 4. Fornell-Larcker criterion

Variabel	Accessibility (AC)	Security (SE)	User Experience (UX)	User Satisfaction (US)	User Trust (UT)
Accessibility (AC)	0.753				
Security (SE)	0.404	0.807			
User Experience (UX)	0.254	0.555	0.793		
User Satisfaction (US)	0.540	0.477	0.282	0.772	
User Trust (UT)	0.443	0.642	0.371	0.529	0.793

In table 4, the test results show that the Accessibility (AC) construct has an AVE square root value of 0.753, which is higher than its correlation with other constructs, namely Security (0.404), User Experience (0.254), User Satisfaction (0.540), and User Trust (0.443). This indicates that Accessibility indicators are better able to explain their own construct variance than other construct variances. Konstruk Security (SE) also met the same criteria, with a square root value of AVE of 0.807, which is higher than its correlation with Accessibility (0.404), User Experience (0.555), User Satisfaction (0.477), and User Trust (0.642). Although the correlation between Security and User Trust is relatively strong, the value is still below the square root of AVE, so the boundary of discrimination between constructs is maintained.

Furthermore, the User Experience (UX) construct has an AVE square root value of 0.793, which is greater than its correlation with other constructs, namely Accessibility (0.254), Security (0.555), User Satisfaction (0.282), and User Trust (0.371). Similarly, the User Satisfaction (US) construct shows an AVE square root value of 0.772, which is higher than its correlation with Accessibility (0.540), Security (0.477), User Experience (0.282), and User Trust (0.529). Finally, the User Trust (UT) construct has an AVE square root value of 0.793, which is also greater than its correlation with Accessibility (0.443), Security (0.642), User Experience (0.371), and User Satisfaction (0.529).

Based on the table of 5 cross-loadings shown, the evaluation of discriminant validity through the cross-loading approach shows that all indicators have adequately met the criteria for discriminant validity. The basic principle of cross-loading testing states that an indicator must have the highest loading value on the latent construct it is measuring, compared to the loading value of the indicator on other latent constructs. This aims to ensure that each indicator truly represents the construct in question and does not suffer from measurement ambiguity.

Table 5. Cross loading

Variabel	Accessibility (AC)	Security (SE)	User Experience (UX)	User Satisfaction (US)	User Trust (UT)
AC3	0.748	0.276	0.203	0.377	0.366
AC4	0.770	0.356	0.196	0.404	0.356
AC5	0.740	0.280	0.173	0.440	0.278
SE1	0.354	0.833	0.464	0.442	0.543
SE4	0.327	0.792	0.470	0.367	0.481
SE5	0.295	0.795	0.411	0.339	0.528
US1	0.394	0.391	0.210	0.777	0.414
US2	0.413	0.368	0.252	0.764	0.358
US3	0.443	0.345	0.192	0.774	0.452
UT1	0.340	0.512	0.297	0.441	0.791
UT3	0.359	0.531	0.313	0.408	0.802
UT5	0.357	0.483	0.273	0.412	0.787
UX1	0.179	0.486	0.814	0.175	0.289
UX2	0.303	0.407	0.822	0.246	0.334
UX4	0.101	0.438	0.740	0.245	0.254

The test results showed that the Accessibility (AC) indicators, namely AC3 (0.748), AC4 (0.770), and AC5 (0.740), had the highest loading values in the Accessibility construct compared to the Security, User Experience, User Satisfaction, and User Trust constructs. The cross-loading value of AC indicators against other constructs is in a lower range, thus confirming that these indicators consistently measure the accessibility aspect of the Pegadaian Digital Service application. A similar pattern is also seen in the Security (SE) construct, where the indicators SE1 (0.833), SE4 (0.792), and SE5 (0.795) show the highest loading on the Security construct compared to other constructs. Although there is a moderate correlation between Security and User Trust, the loading value of the indicator remains dominant in the original construct, so it does not pose a problem of construct discrimination.

Furthermore, User Experience (UX) indicators such as UX1 (0.814), UX2 (0.822), and UX4 (0.740) show the highest loading value in the User Experience construct compared to other constructs, indicating that the UX indicator is able to capture the perception of the user experience specifically. Similarly, the User Satisfaction (US) indicators, namely US1 (0.777), US2 (0.764), and US3 (0.774), have the highest loading in the user satisfaction construct, while the loading value in other constructs is relatively lower. This shows that the user satisfaction indicator does not experience measurement overlap with other constructs. Finally, the User Trust (UT) indicators, namely UT1 (0.791), UT3 (0.802), and UT5 (0.787), also have the highest loading in the User Trust construct, which confirms the clarity and consistency of user trust measurement.

Overall, the results of this cross-loading confirm that each indicator has the greatest measurement power in the latent construct it represents, and there is no indicator that has a higher load on other constructs than the original construct. Thus, it can be concluded that the discriminant validity based on the cross-loadings criteria has been met, so that the measurement model in this study has good conceptual clarity and is suitable for further structural analysis and hypothesis testing.

3.2 Inner model result

In the internal model testing carried out by the researcher, shown in Figure 2 below. The R-square value (R^2) is used to measure the ability of independent variables to explain the variability of dependent variables in a structural model. The higher the R-square value, the greater the proportion of variation of the dependent variable that can be explained by the independent variable. In this study, there are two endogenous variables, namely User Satisfaction (US) and User Trust (UT). Based on the results of data processing using SmartPLS 3.0, an R-square value of 0.372 for User Satisfaction and 0.453 for User Trust was obtained. The R^2 value of 0.372 shows that the variables User Experience, Security, and Accessibility are simultaneously able to explain 37.2% of the variation in user satisfaction with the Pegadaian Digital Service application, while the remaining 62.8% is explained by other factors outside the research model. Meanwhile, an R^2 value of 0.453 indicates that the combination of the three independent variables is able to explain 45.3% of the variation in user confidence. According to the standard rules of the coefficient of determination test, an R^2 value of 0.25 is categorized as weak, 0.50 as moderate, and 0.75 as substantial. Thus, the R-square value of the two endogenous variables is in the moderate category, which indicates that the structural model has a fairly good clear power and is relevant in the context of research on the behavior of users of digital financial services applications.

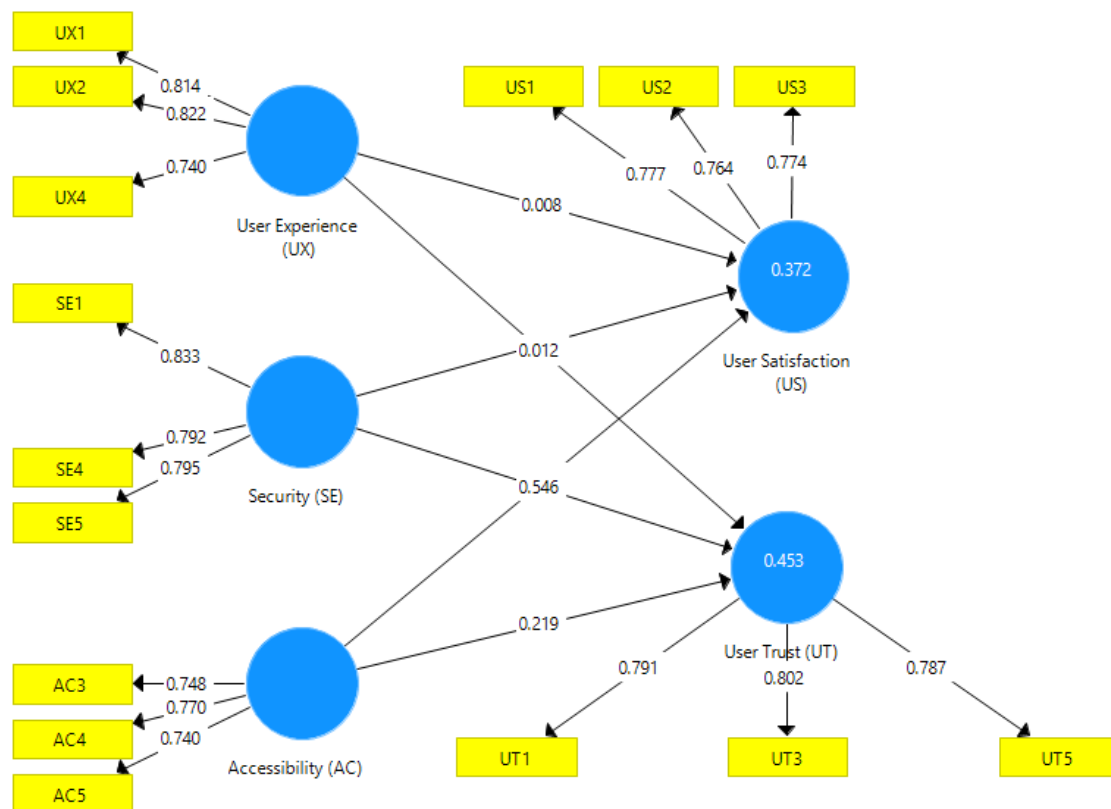


Fig. 2. Result research

Hypothesis testing is a decision-making process based on sample data to test the correctness of provisional statements (hypotheses) about the population, involving the determination of H_0 and H_a , the selection of test statistics, the determination of significance (usually 5%), and the testing criteria based on significance values (sig.) or t-count/f-count versus tables, where if $\text{sig.} \leq 0.05$ or T is greater than that, then an alternative hypothesis (H_a) is accepted.

Table 6. Path coefficients

	Original Sample (O)	T Statistics (O/STDEV)	P Values	Remark
Accessibility (AC) → User Satisfaction (US)	0,415	5.954	0.000	Significant
Accessibility (AC) → User Trust (UT)	0,219	3.169	0.002	Significant
Security (SE) → User Satisfaction (US)	0,305	4.225	0.000	Significant
Security (SE) → User Trust (UT)	0,546	6.688	0.000	Significant
User Experience (UX) → User Satisfaction (US)	0,008	0.116	0.908	No Significant
User Experience (UX) → User Trust (UT)	0,012	0.160	0.873	No Significant

H1a. The Effect of User Experience (UX) on User Satisfaction (US). Based on the test results, User Experience (UX) has no significant effect on User Satisfaction (US). This is reflected in the very small Original Sample, which is 0.008, which shows a very weak practical contribution. In addition, the t-statistic value is 0.116, which is well below the 1.96 threshold, and p-value of 0.908 (> 0.05) suggest that the relationship is not statistically significant. These findings indicate that the user experience in using the Pegadaian Digital Service application has not been able to directly increase user satisfaction levels. Thus, The H1a hypothesis was rejected. Although the path coefficient is of positive value, its contribution is very weak and not strong enough to explain the variation in user satisfaction. These findings indicate that in the context of Pegadaian Digital Service applications, user experience has not yet become the main determinant of satisfaction, likely because users prioritize functional aspects such as security and accessibility. Therefore, H5 was rejected, and these results show that UX improvements alone do not directly guarantee an increase in user satisfaction without being offset by other more crucial aspects. This result is contrary to the previous hypothesis that there is a positive effect. (Kaba et al., 2024; Kumar et al., 2023).

H2a. The Influence of User Experience (UX) on User Trust (UT). Based on the test results, User Experience (UX) has no significant effect on User Trust (UT). This is indicated by the Original Sample Value of 0.012, which reflects a very weak practical contribution. The t-statistic value is 0.160, which is well below the threshold value of 1.96, and a p-value of 0.873 (> 0.05) show that the relationship between user experience and user trust is not statistically significant. These findings indicate that users' trust in the Pegadaian Digital Service application is more influenced by functional aspects, especially security and accessibility, than by user experience. Therefore, the H2a hypothesis is rejected. Although the relationship is positive, its contribution is very small and empirically meaningless. This indicates that users' trust in the Pegadaian Digital Service application is more built through security and accessibility aspects than user experience aspects. As such, the interface design and visual ease are not strong enough to build trust without adequate security guarantees. With these findings, we identify previous research that does not match the results of this study. (Bach et al., 2024; Rheu et al., 2021).

H1b. The Effect of Security (SE) on User Satisfaction (US). The results of the analysis show that Security (SE) has a positive and significant effect on User Satisfaction (US). The Original Sample value of 0,305 shows that security has a positive contribution to increasing user satisfaction. Furthermore, the t-statistic value is 4,225, greater than 1.96, and p-value of 0.000 (< 0.05) indicate that the effect is statistically significant. These findings imply that user perception of system security, personal data protection, and transaction security plays an important role in shaping user satisfaction with the Pegadaian Digital Service application. Therefore, the H1b hypothesis is accepted. A positive path coefficient indicates that the higher the user's perception of application security, including personal data protection, transaction security, and authentication systems, the higher the level of user

satisfaction. Security provides a sense of security and psychological comfort in transactions, which is an important factor in digital financial services. These results are in line with previous research (Lemon et al., 2024) that places trust and user satisfaction in the digital service experience. Therefore, H3 was accepted, and these findings strengthen the argument that the security aspect has a significant role in increasing the satisfaction of Pegadaian Digital Service users.

H2b. The Effect of Security (SE) on User Trust (UT). The test results show that Security (SE) has the most dominant positive and significant influence on User Trust (UT). The Original Sample value of 0,546 shows a high power of influence and a one-way relationship. This is reinforced by the t-statistic value is 6,688, which far exceeds the critical value of 1.96, and the p-value of 0.000, which shows very strong statistical significance. These findings confirm that data security, privacy protection, and transaction security are the main factors in building user trust in the Pegadaian Digital Service application. Therefore, H2b hypothesis is accepted. The large and positive path coefficient indicates that security is the most dominant factor in forming user trust in the Pegadaian Digital Service application. The perception of high security reflects users' belief that the system is capable of protecting their data and transactions from the risk of misuse. In the context of digital financial services, trust is the main foundation, so security is an absolute prerequisite. Thus, the results of this study provide strong empirical evidence that improving the security system will directly increase user trust. Therefore, these results are consistent with the previous hypothesis that Security has a significant positive effect on User Trust (Aldboush & Ferdous, 2023).

H1c. The Effect of Accessibility (AC) on User Satisfaction (US). The results of the hypothesis test show that Accessibility (AC) has a positive and significant effect on User Satisfaction (US). This is indicated by the value path coefficient (Original Sample) of 0.415, which indicates a parallel relationship with a relatively strong force of influence. The t-statistic value of 5,954 has exceeded the critical value of 1.96 and is supported by a p-value of 0.000, which is below the significance level of 0.05. This finding confirms that the higher the level of accessibility of the Pegadaian Digital Service application, the higher the user satisfaction felt. Thus, H1c hypothesis is accepted, and accessibility proves to be an important factor in improving user satisfaction. The positive path coefficient indicates that the higher the level of application accessibility in terms of ease of use, affordability of features, and ease of access to services, the higher the level of user satisfaction. These findings confirm that accessibility is an important factor in the context of digital financial services, particularly for users with digital literacy levels and diverse infrastructure conditions. Thus, the results of this study support previous empirical findings (Abhichandani, 2025; Bercaru & Popescu, 2024; Atata & Odedeyi, 2025), which state that an accessible and inclusive application design directly increases user satisfaction in digital services.

H2c. The Influence of Accessibility (AC) on User Trust (UT). The results of the hypothesis test show that Accessibility (AC) has a positive and significant effect on User Trust (UT). This is indicated by the value path coefficient (Original Sample) of 0.219, which reflects a positive relationship with the power of moderate influence. The value of the t-statistic 3,169 has exceeded the limit value of 1.96, and the p-value of 0.002, which is below the significance level of 0.05. These findings show that the ease of access and inclusivity of features in the Pegadaian Digital Service application contribute to increasing user trust in the digital service. Thus, H2c hypothesis is accepted. A positive path coefficient indicates that improved application accessibility, such as ease of login, clear navigation, and the app's ability to be used by different groups of users, contributes to building user trust. Good accessibility creates the perception that the system is reliable, stable, and attentive to the needs of the user, which ultimately reinforces the dimensions of cognitive and emotional trust. Thus, the results of this study prove that accessibility not only has an impact on satisfaction but also plays an important role in building user trust in digital financial services. Therefore, these results are in line with previous research that said there was a

significant positive relationship between Accessibility and User Trust (Alabdulrahman et al., 2025; Seixas Pereira & Duarte, 2025; Spencer, 2024).

3.3 Limitations and future research

This research possesses multiple limitations. The research utilized a cross-sectional design, which constrains the capacity to observe alterations in user perceptions over time. Secondly, the sample was confined to users of the Pegadaian Digital Service application in Indonesia, thereby constraining the generalizability of the findings to other digital financial service platforms or varying national contexts. This study exclusively studied User Experience, Security, and Accessibility as precursors to User Satisfaction and User Trust, neglecting other potentially significant characteristics such as perceived risk, service quality, digital literacy, and continuing intention. Future study should utilize longitudinal methodologies, broaden the respondent base across various fintech platforms, and include supplementary factors to enhance the knowledge of user behavior and trust development in digital financial services.

4. Conclusions

Based on the results of the analysis using the Structural Equation Modeling–Partial Least Square (SEM-PLS) approach for users of the Pegadaian Digital Service application, it can be concluded that the research model developed has met the feasibility criteria both in terms of the measurement model (outer model) and structural model (inner model). All constructs used in this study, namely User Experience, Security, Accessibility, User Satisfaction, and User Trust, have been proven to be valid and reliable so that the measurement instrument is able to represent respondents' perceptions consistently. In terms of structural models, the R-square value shows that the variables User Experience, Security, and Accessibility are simultaneously able to explain the variation in User Satisfaction of 37.2% and User Trust of 45.3%, which is included in the moderate category. The results of the hypothesis test show that Accessibility and Security are the dominant factors that have a significant effect on user satisfaction and trust, with a very strong influence of Security on User Trust. These findings confirm that in the context of digital financial services, users prioritize ease of access and security over aspects of visual experience or interface interaction alone. Interestingly, User Experience has not been shown to have a significant effect on either user satisfaction or trust, indicating that interface design and convenience have not been the main determining factors as long as the core functions of the application run safely and easily accessible. Overall, this study provides an empirical contribution that improving the quality of Pegadaian Digital Service services should be focused on strengthening security systems and improving accessibility to encourage satisfaction and build user trust in a sustainable manner.

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Author Contribution

All stages of this research, including conceptualization, methodology, research design, data collection, data analysis, interpretation of the findings, manuscript preparation, and critical revision, were carried out collaboratively. All contributors reviewed and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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Ethical Review Board Statement

This study involved voluntary participation through an online questionnaire and was conducted in accordance with ethical principles for research involving human participants. As the study collected anonymous survey data without intervention or sensitive personal information, formal ethical approval was not required under the applicable institutional guidelines.

Informed Consent Statement

Informed consent was obtained electronically from all participants before they completed the questionnaire. Participation was voluntary, and respondents were informed that their responses would remain anonymous and be used solely for research purposes.

Data Availability Statement

The data supporting the findings of this study are openly available in Mendeley Data at doi.org. (10.17632/XZ3WTPC4R9.1)

Conflicts of Interest

The authors declare no conflict of interest.

Declaration of Generative AI Use

The authors declare that generative artificial intelligence (AI) tools were used only to assist with language improvement, grammar checking, and manuscript editing. All research design, data collection, data analysis, interpretation of results, and final responsibility for the content of this manuscript remain entirely with the authors.

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