ONLINE CUSTOMER EXPERIENCE FOR DIGITAL BANKING CUSTOMERS: RECONFIRMATION OF INFORMATION SYSTEM SUCCESS MODEL

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ABSTRACT

The rapid transformation of the banking industry, driven by advancements in digital technology, has reshaped how banks deliver services and interact with customers. This study investigates the impact of system quality, information quality, and service quality on online customer experience and customer loyalty in the digital banking context. Using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method, data was collected from 95 respondents who have actively used mobile banking services for over three years. The findings reveal that system quality and information quality significantly influence customer loyalty and online customer experience, while service quality does not have a direct effect on customer loyalty. Similarly, system quality does not significantly affect online customer experience unless paired with other quality dimensions. These results highlight the evolving priorities of digital banking customers, who value efficient, secure, and intuitive platforms over traditional service interactions. The study emphasizes the importance of integrating high system and information quality with personalized and responsive service to enhance the overall customer experience. This research provides theoretical and practical insights for banking institutions aiming to strengthen their digital strategies and foster sustainable customer loyalty in the competitive landscape of digital banking.

Keywords: *System Quality; Information Quality; Service Quality; Customer Loyalty; Online Customer Experience*

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INTRODUCTION

The banking industry in Indonesia is currently undergoing a significant transformation process triggered by the massive and comprehensive development of information technology and changes in customer behavior (Pertiwi et al., 2023; Wulandari et al., 2024). The dynamics that occur in the banking industry are increasingly complex with the presence of various innovations in banking technology that fundamentally change bank operations in serving customers (Fianto et al., 2021; Tanjung and Rivolsyah, 2024) In this digital era, banks no longer function solely as financial institutions that offer traditional financial and banking services, but have evolved into digital entities that focus on providing financial and banking services based on information and communication technology (Tran et al., 2023; Shanti et al., 2023)

This transformation is also driven by the increasing need from customers for convenience, speed, and accessibility in various banking services. Banking digitalization, or often referred to as digital banking, is one of the most prominent phenomena in this change (Singh et al., 2024). Digital banking allows banks to provide financial and banking services virtually without the need to build direct interactions through physical branches (Windasaria et al., 2022). By using various platforms such as mobile banking applications and internet banking, customers can now make financial and non-financial transactions, manage finances, and access banking products anytime and anywhere. Artificial intelligence (AI) technologies such as chat bots are further strengthening the digital banking ecosystem, further enabling better service personalization and more efficient operational automation (Walia, 2025)

However, although digitalization can provide various conveniences for customers, new challenges arise in maintaining an optimal online customer experience. In an all-digital environment, the banking industry is faced with the need to create an intuitive, fast, and secure user experience. Online Customer Experience is not only about the ease of customer access to services, but also about the quality of interaction, the sense of security for customers, and the trust that is built between the banking industry and customers (Chauhan et al., 2022; Ridwan et al., 2024). These factors are crucial in maintaining customer loyalty and increasing the level of adoption of digital banking services by customers (Ridwan et al., 2024)

On the other hand, competition in the financial industry between traditional banks and financial technology (fintech) companies directly encourages banks to modify their business models and continue to innovate, especially those related to creating digital experiences for their customers (Arner et al., 2016). Although competing with each other, collaboration between banks and financial technology (fintech) companies actually creates a much more dynamic ecosystem (Tuunainen et al., 2022). Meanwhile, from the customer side, there has also been a more complex change in expectations regarding the services provided (Becker & Jaakkola, 2020)

As an illustration, Bank Rakyat Indonesia (BRI) as one of the largest state-owned banks in Indonesia has experienced a significant increase in the use of the BRIMo application by its customers. One of the driving factors for this is the Covid-19 pandemic which has encouraged customers to reduce the frequency of visits to BRI physical offices and switch to using digital services. Some of the features that are continuously updated on the BRIMo application are bill payments, account opening, and online investments, increasingly attracting customers to use it more actively. The impact of the development of the BRIMo application in 2021, the number of transactions through BRImo increased sharply, with active users reaching more than 15 million people, growing 60% from the previous year (Jatmiko, 2022). In addition, the volume of transactions through the BRI

digital platform was recorded at more than 60% of the total bank transactions.

Seeing this phenomenon, Bank Rakyat Indonesia (BRI) shifted its focus to the digitalization process in all aspects of its services, and made massive investments in technology to meet the growing needs of its customers. This change in customer behavior shows that with increased accessibility and ease of service, customers are more likely to use digital services for their daily banking needs (Ananda et al., 2020). In addition to Bank Rakyat Indonesia (BRI), other large state-owned banks such as Bank Mandiri have also launched the Livin' by Mandiri application, which is designed to meet the digital service needs of its customers. Since its launch until now, this application has succeeded in attracting millions of new users. In line with Bank Rakyat Indonesia with its BRIMo, Livin' by Mandiri has succeeded in presenting digital services in one application where customers can easily carry out daily financial transactions for investments, bill payments, and loan services.

The pandemic has also accelerated the adoption of digital applications, where customers are reluctant to come directly to branch offices. The impact of the pandemic a few years ago caused an increase in Livin by Mandiri users to reach more than 9 million people, with a transaction volume of more than IDR 1,400 trillion (Shahnaz, 2022). In addition, Bank Mandiri also recorded an increase in online transactions of 30-40% per year. Bank Mandiri focuses on further innovation to attract more customers to its digital platform, especially in the Gen-Y (millennial) and Gen Z segments (Indonesia News, 2025). The increase in the number of users and transactions shows that changes in customer interest are greatly influenced by innovative features that meet the needs of easy, safe, and accessible banking at any time (Amin,2016). This shows the importance of digital platforms as a main pillar of future banking strategies. This research will reconfirm various constructs to predict customer loyalty in the era of banking digitalization.

The transformation of the banking industry in Indonesia, which is driven by digitalization, customer behavior shifts, and technological innovation has drawn considerable scholarly attention in recent years. Many research has explored the effect of system quality, information quality and service quality on customer satisfaction and loyalty. However, the literatures reveal inconsistent and often contradictory findings regarding this relationship. Moreover, although many studies have positioned Online Customer Experience as mediating variable influencing customer loyalty, there is still limited theoretical and empirical exploration that challenge this assumption especially that customer experience does not always serve as a direct predictor of loyalty. In certain context, customer loyalty may depend more heavily on other cognitive and affective factors such as trust, satisfaction or perceived value. Thus, online customer experience may not directly influence the loyalty unless mediated by satisfaction, trus or perceived value.

This research contributes both theoretically and practically. Theoretically, it will enhance the digital banking literature by integrating the Online Customer Experience as dependent construct, and also provide a comparative insight into the conflicting findings in past research by testing the new proposed model. Practically, this research offers the valuable guidance for banking practitioners on how to strengthen customer loyalty in the digital era. The result can assist the digital strategist designer in focusing on quality improvement that actually translate into a meaningful customer experience.

LITERATUR REVIEW AND RESEARCH FRAMEWORK

In recent years, Ghiuta & Nistor (2025) argue that the internet has not only been used as a means of communication, but has also been widely used as a platform for purchasing goods and services online. Furthermore, it turns out that the internet has become the main channel for business actors, both small scale and corporate (McLean and Wilson, 2016). This change in the important role of the internet allows business actors to communicate more efficiently and effectively with their service users, so that this has the potential to create an interesting experience for consumers (Amin, 2016).

Digital banking services can consistently provide various conveniences for customers to make both financial and non-financial transactions anytime and anywhere with relatively low operational costs (Foroudi et al., 2016). In line with the widespread use of internet technology, there has also been the development of information technology regarding instant payment systems which are increasingly driving significant changes in the financial and banking industry (Komulainen and Saraniemi, 2019).

To produce loyal customers, various research in marketing science has reviewed the concept of Online Customer Experience (Farooq et al., 2018; Khatoon et al., 2020; Bapat, 2020). This concept can be understood as an effort made by companies to improve the quality of interactions between companies and their consumers (Joshi, 2014). Research on Customer Experience has been widely used by researchers to predict how an interaction from a service provider can or cannot have an impact on changes in customer behavior in the financial and banking industry (Bapat, 2020). The concept of Customer Experience was first introduced by Pine and Gilmore in 1999 (Pine and Gilmore, 1999). The researchers expressed the opinion that a successful business transaction can influence someone by involving them in the value creation process.

According to Shankar and Jebarajakirthy (2019), effective customer experience can be formed by product and service performance, as well as sales strategies implemented by the company itself. Thus, customer experience is the consumer's perception of their interaction with a brand, starting from when the brand is promoted, the sales process to the use of the brand by consumers (De Keyser et al., 2015). The quality of digital banking services felt by customers during transactions, including the speed of response from the bank, ease of navigation, and additional personal support provided, have a major role in forming a positive experience for customers (Morgan-Thomas and Veloutsou, 2013). However, the quality of service provided during online interactions, including speed of response, ease of navigation, and customer support, play a major role in forming a positive experience (Martin et al., 2015; Pooye et al., 2020; Rahisamar and Ngah, 2020). When customers are satisfied with the service they receive, they are more likely to return to transact and are reluctant to look for other alternatives (Tena et al., 2019).

In 2011, a study conducted by Rose et al. (2011) began to use the idea of online customer experience for the first time and used previous literature to create the Online Customer Experience (OCE) model. The research model was then developed by several subsequent researchers (Trevinal and Stenger, 2014) by adding the main element, namely informativeness, which refers to the extent to which information provided by the company is useful for the process of creating a positive experience for customers. The concept of Online Customer Experience (OCE) has been studied in various industrial fields such as online retail (Bleier et al., 2018), financial services such as digital payments (Dimitrova et al., 2021), digital banking (Yasin et al., 2020; Khan et al., 2016; Monferrer et al., 2019). From several studies, online customer experience empirically

has a significant impact on the formation of customer loyalty. However, there are also several studies that actually show that online customer experience does not have a significant impact on customer loyalty (Bapat, 2022; Tjiptodjojo et al., 2023; Nurhannah et al., 2022).

System Quality toward Customer Loyalty

Empirical research from recent years establishes that system quality has a direct impact on customer loyalty, especially in online service and e-commerce environments (Flavian et al., 2020). Studies suggest that when a system is easy to navigate, reliable, and responsive, it enhances user satisfaction and trust, which are critical for fostering customer loyalty (Gandolfo, 2020). This positive customer experience reduces barriers to engagement and motivates repeat usage, which ultimately leads to increased loyalty. (Dootson et al., 2016**;** Flavian et al., 2020)

Research conducted by Ali and Raza (2020) highlight that system quality along with service quality and information quality, strengthens customer satisfaction and trust. These factors are interconnected, where high system quality reduces perceived risk, making customers more likely to return and recommend the service, thus increasing loyalty. Another study by Shi et al. (2020) demonstrates similar findings, showing that in digital commerce, effective system quality significantly contributes to a user's willingness to repurchase, as it minimizes frustrations and supports a positive experience, reinforcing loyalty through trust. These studies illustrate that system quality's impact on loyalty is often mediated by customer satisfaction and trust, underscoring the importance of a seamless, reliable system in retaining customers and encouraging their long-term engagement

However, another empirical research also has demonstrated cases where system quality does not directly impact customer loyalty, particularly in online or mobile contexts. Yum and Yoo (2023) initiate a study that shown dimensions of system quality, such as accessibility or interface reliability, do not significantly influence customer loyalty unless they contribute to customer satisfaction first. This effect suggests that factors like service responsiveness or fulfillment are more critical for loyalty than the technical system itself in some cases.

Another study examining small and medium-sized enterprises found that resilience and responsiveness were more impactful on loyalty than system quality alone, indicating that while system quality can support satisfaction, it may not directly drive loyalty (Saad et al., 2022). These findings suggest that, in specific contexts, system quality may have an indirect or mediated role, rather than a direct effect, on customer loyalty. Based on contradiction, we propose following hypotheses to be tested.

H1. System quality as a predictor of customer loyalty for digital banking customer

System Quality toward Online Customer Experience

The relationship between quality systems and online customer experience in digital banking is explained by numerous empirical studies. Quality systems in digital banking, focused on service reliability, usability, and security, play a critical role in shaping customer satisfaction and loyalty (Zavareh et al., 2023). For instance, studies reveal that well-designed online interfaces, robust security measures, and responsive support services are essential for creating positive customer experiences. High system quality leads to increased customer retention as it fosters trust, reduces frustration, and enhances ease of use (Al-Hattami et al., 2021; Esengun et al., 2020). Additionally, the impact of quality on satisfaction is mediated by service features like personalized

interfaces, responsive support, and secure transaction processes, especially in mobile and online banking channels (Kaura et al., 2015). These factors are consistently linked to improved satisfaction and loyalty, indicating the importance of continuous quality management to meet customer expectations and maintain competitive advantage (Usman et al., 2020).

Several empirical studies examining system quality's impact on customer experience in digital contexts found that system quality can sometimes have no significant effect on customer satisfaction or loyalty, contrasting with traditional expectations. Sheng and Liu (2010) discovered in their analysis of e-commerce that while certain dimensions of e-service quality—like efficiency and fulfillment—were influential, system accessibility, a component of system quality, did not significantly impact customer satisfaction or loyalty. Their research suggests that simply having a stable or accessible system may not be enough to enhance the online customer experience if other quality dimensions are not optimized. Similarly, research on Indonesian SMEs noted that system quality alone did not substantially affect customer satisfaction unless perceived value mediated the relationship (Susanto, 2020). This indicates that, in some cases, users may not directly equate system quality with a positive experience unless it provides meaningful value or is paired with other service quality attributes. Based on contradiction available above, we propose following hypotheses to be tested.

H2. System quality as a predictor of online customer experience for digital banking customer

Information Quality toward Customer Loyalty

The relationship between information quality and customer loyalty is well-documented, especially in digital services, where high-quality information enhances customer satisfaction and encourages loyalty (Mahendra et al., 2021; Kumalasari et al., 2024). Information quality, typically involving accuracy, reliability, and timeliness, plays a critical role in building trust. When customers receive clear and reliable information, it positively influences their satisfaction and confidence in the service, which in turn fosters loyalty (Kaura et al., 2015). This effect has been observed across industries, from banking to retail and hospitality (Hamouda, 2019).

For example, recent studies on customer satisfaction emphasize that information quality affects customer loyalty by meeting customers' expectations and reducing uncertainty in decision-making (Kim et al., 2020). Additionally, during and post-COVID-19, information quality has been particularly relevant in maintaining customer loyalty as it addresses increased concerns about safety and service reliability (Rivera et al., 2022). These studies confirm that consistent and quality information strengthens the relationship between customer experience and loyalty, indicating that customers are more likely to return when they trust the information provided by a service (Hamouda, 2019)

Contradiction result showed by Park (2020) discusses how information quality, especially in the context of electronic word-of-mouth (eWOM), influences customer loyalty. The findings indicate that although information quality plays a role in shaping attitudes toward information, it is the credibility, usefulness, and adoption of information that more strongly impacts customer loyalty. This suggests that, in certain contexts, simply improving information quality alone may not be sufficient to boost loyalty if other factors, like information credibility and its perceived usefulness, are not aligned. Thus, while information quality is a component of the customer loyalty process,

its direct impact can be limited unless accompanied by other factors like credibility and adoption.

Another evidence showed by Mahendra et al. (2021) which explored the impact of system quality, information quality, and service quality on customer loyalty within mobile banking. Their findings indicated that information quality alone does not directly affect customer loyalty. Instead, it influences customer loyalty indirectly through customer satisfaction. This research suggests that while information quality is relevant, its effect on loyalty is more complex and depends on mediating factors like satisfaction. Patma et al. (2022) also investigated the relationship between information quality and customer loyalty in the context of mobile applications. They found that trust is a critical mediator between information quality and loyalty, highlighting that high information quality alone may not suffice to build loyalty unless it also enhances user trust. This study suggests that in digital service contexts, trust mediates the relationship between quality and loyalty, making loyalty dependent on more than just the quality of information itself. Based on these empirical result gap, we thus propose hypotheses below to be tested.

H3. Information quality as a predictor of customer loyalty for digital banking customer

Information Quality toward Online Customer Experience

The relationship between information quality (IQ) and online customer experience (OCX) in digital banking is critical, as high-quality information directly influences how customers perceive and interact with online services (Chen & Wang, 2023). Information quality generally refers to accuracy, relevance, timeliness, completeness, and clarity of information available on digital banking platforms (Ahmed et al., 2020). This quality can greatly impact OCX, as it shapes customers' trust, satisfaction, and overall emotional response toward a digital service (Ahmed et al., 2020). Subali et al. (2022) found that both system and information quality significantly influence the online experience in digital banking services, indicating that quality information encourages customer engagement and loyalty. However, research initiated by Mahendra et al. (2021) showed high information quality fosters trust, satisfaction, and ease of use, which are critical for positive online experiences, but not directly.

In some digital banking contexts, the immediacy and relevance of interactions, powered by AI and automation, may overshadow the traditional role of information quality in shaping customer experience. For example, research by Batra (2023) identified that the quality of information, such as how accurate and up-to-date it is, did not significantly affect customer engagement when other factors like service personalization or system usability were prioritized. This highlights that in some digital banking environments, customers may value other aspects, such as ease of navigation or security features, more than just the quality of the information presented. Thus, we proposed following hypotheses to be tested

H4. Information quality as predictor of online customer experience for digital banking customer

Service Quality toward Customer Loyalty

A study which initiated by Fida et al. (2020) found that high service quality in banking has a strong positive correlation with customer satisfaction, which in turn promotes loyalty. By using satisfaction as a mediating variable, they showed that quality service builds trust and meets customer needs, fostering a commitment to the bank. Similarly,

Khatoon et al. (2020) confirmed the impact of service quality on loyalty in Bangladesh's banking sector, demonstrating that customer satisfaction plays a critical role in this relationship.

However, some studies have indicated that service quality does not significantly affect customer loyalty in specific banking or digital service contexts. For instance, research on mobile payment services in Pakistan revealed an insignificant relationship between perceived service quality and customer loyalty (Wahyudi & Muafi, 2021). This study suggested that other factors, like trust and technical functionality, might be more crucial in forming customer loyalty, especially in mobile or digital contexts where technical quality impacts satisfaction more heavily than traditional service quality dimensions (Wahyudi and Muafi, 2021). Previously Ahmed et al. (2020) also found that while service quality contributes to satisfaction, loyalty depends more on aspects like convenience and digital service reliability than traditional service quality factors. Therefore, based on these contradictions, we propose following hypotheses to be tested in this research.

H5. Service quality as predictor of customer loyalty for digital banking customer

Service Quality toward Online Customer Experience

Recent studies indicate a clear and significant relationship between service quality and online customer experience, which strongly impacts customer satisfaction and loyalty (Cao et al., 2018). Service quality dimensions like usability, security, privacy, responsiveness, and reliability are critical. For instance, research highlights that ease of use and accessible support services greatly enhance user satisfaction, leading to repeat purchases and positive word-of-mouth referrals in online shopping contexts. Further research from Hammoud et al. (2018) in the Lebanese banking sector identified that responsiveness and effective communication are also critical service quality factors. These factors foster an environment where customers feel valued, thereby improving their overall online experience. Similarly, the study highlighted that visually appealing and user-friendly platforms contribute to a more enjoyable customer experience, further reinforcing satisfaction and loyalty.

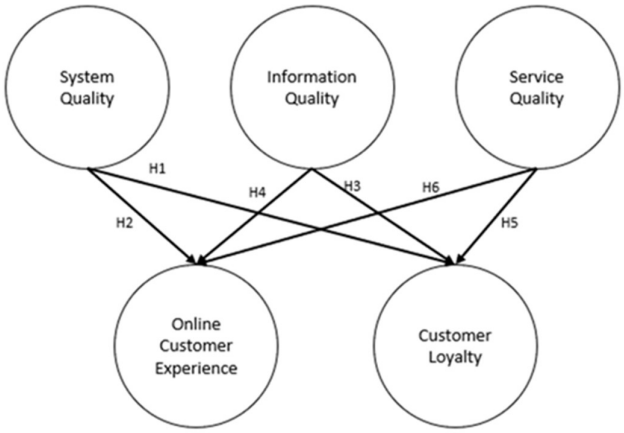
Despite previous research has proved the significant effect from service quality toward online customer experience, Yingfei et al. (2022) found that service quality generally improves customer experience mediates by corporate image significantly. This suggests that standalone improvements in service quality may not be enough to directly boost customer experience; instead, aligning quality improvements with a strong corporate image might be necessary to achieve a noticeable impact. In accordance with Yingfei, previous empirical research provided by Al-Adwan and Al-Horani (2019) pointed out that certain elements of e-service quality, like website customization features, had limited influence on customer loyalty and trust in e-commerce. Therefore, we propose this hypothesis to be tested to achieve the reconfirmation.

H6. Service quality as predictor of customer experience for digital banking customer

Research Framework

Figure 1 illustrate the proposed research model, which is constructed base on the Information System Success Model to investigate the direct effect of system quality, information quality and service quality on both online customer experience and customer loyalty. Furthermore, it explores the mediating role of online customer experience in the

relationship between service attribute and loyalty within the digital banking context



Source: Developed by the author (2025), adapted from DeLone and McLean IS Success Model (2003)

Figure 1
Research Framework

METHOD

This study uses a quantitative analysis method, where the research stages will be divided into 2 stages. In stage 1, the researcher will develop a questionnaire through a compilation of questionnaires based on various previous studies. After compiling, a validity and reliability test is carried out, where the item will be used if the T-statistic number on the Outer Loading and Average Variance Extracted is > 0.5 (Hair et al., 2019). Furthermore, an item will be declared reliable if its Composite Reliability value is also > 0.6 (Hair et al., 2019). In the second stage, after ensuring that the items used are valid and reliable, the next stage is to conduct a causality test using the partial least square method.

The sample to be used was determined using the purposive sampling technique (Palinkas et al., 2015) with the provision that the customer has been a bank customer for 3 years and actively uses mobile banking services. With this purposive sampling technique, it is expected that respondents who participate in this research are in accordance with the topic being researched (Palinkas et al., 2015). The collected data will be analyzed first for validity and reliability using the Smart PLS student version software. To analyze validity, the researcher used the Cross Loading parameter with a threshold of 0.5, while for reliability using the Composite Reliability parameter with a threshold of 0.5 (Hair et al., 2019).

The PLS-SEM approach is particularly useful when working with complex models, small sample sizes, or when the data does not meet certain normality assumptions. PLS-SEM emphasizes maximizing the explained variance of the dependent variables, which makes it useful for predictive modeling. This approach is also less stringent about distributional assumptions and multi collinearity among indicators than covariance-based SEM (Hair et al., 2017).

After the data is declared valid and reliable in the second and third stages, it is continued with hypothesis testing with Smart PLS 4. Student version software. The causal relationship between constructs is tested by path analysis, where a relationship is said to have a significant impact if it has a T-statistic value> 1.64 with a confidence level of 90% (Hair et al., 2019)

RESULTS AND DISCUSSION

Of the total 110 questionnaires distributed using the purposive sampling technique, only 95 questionnaires were successfully returned by the respondents so that the response rate was 86.36%. The answers from the respondents were then processed and tested for validity and reliability in accordance with the established methodology.-The result of validity test, using Outer Loading and Average Variance Extracted parameter can be seen in Tabel 1-5.

Table 1
Items for System Quality and Its Validity Test Result

No	Item	Indicator	Outer Loading	Average Variance Extracted	Parameter Used
1	The system is reliable and rarely crashes	SysQ1	0.920	0.621	>0.5
	The system is easy to navigate and user-friendly	SysQ2	0.794		
	The system responds quickly to my inputs	SysQ3	0.798		
	The system integrates well with other system I use	SysQ4	0.753		
	The system provides sufficient security to protect my data	SysQ5	0.639		
	The system's interface is visually appealing	SysQ6	0.798		

Source: Processed Primary Data, 2025

The table 1 presents the result of the validity testing for the construct System Quality using the Outer Loading values and Average Variance Extracted based on primary data which processed in 2025. From the Outer Loading value, it is evident that five out of the six indicators used to measure the system quality have loading value above the recommended threshold of 0.5 (Hair et al., 2019) indicating the strong correlation between each item and the construct. The highest loading value is found on SysQ1 (0.920) which suggest that the reliability of the system and its stability are the most important indicators for respondent in perceiving system quality.

Table 2
Items for Information Quality and Its Validity Test Result

No	Item	Indicator	Outer Loading	Average Variance Extracted	Parameter Used
2	The information provided is accurate and free from errors	IQ1	0.846	0.574	>0.5
	The information is relevant to my needs	IQ2	0.763		
	The information is current and regularly updated	IQ3	0.715		
	The system provides information in a clear and understandable format.	IQ4	0.768		
	The information is presented in sufficient detail	IQ5	0.752		
	The system provides information that is helpful in making decision	IQ6	0.693		

Source: Processed Primary Data, 2025

Table 2 presents the validity testing result for the construct Information Quality. From the outer loading value, is is clear that all six indicators used to measure the Information Quality demonstrate the loading value above the minimum acceptable threshold. For the IQ6, which has slightly lower value, will still be used on this research because the overall AVE remains above the threshold of 0.50. The highest outer loading is shown by IQ1 emphasizing that information accuracy is a key component of information quality of users. Other indicators such as IQ2 , IQ4 and IQ5 indicating that aspect such as relevance, clarity and completeness of the information are also highly valued by the customer.

Table 3
Items for Service Quality and Its Validity Test Result

No	Item	Indicator	Outer Loading	Average Variance Extracted	Parameter Used
3	The support team is available when I need help	SQ1	0.856	0.623	>0.5
	The support staff is knowledgeable about the system	SQ2	0.898		
	The support team resolve issues in a timely manner	SQ3	0.699		
	I feel valued as a customer by the service team	SQ4	0.664		
	The service team is courteous and professional	SQ5	0.763		
	I can easily contact the support team through various channels	SQ6	0.829		

Source: Processed Primary Data, 2025

Table 3 presents the validity testing for Service Quality construct. The table show us that four indicator such as SQ1, SQ2, SQ5, and SQ6 exceed the commonly accepted threshold, Meanwhile, two indicators which is SQ3 and SQ4 seem have loading slightly lower at 0.699 and 0.664 respectively. While these values are marginally lower, they may still be retained in this research because the hold the conceptual importance. SQ3 reflects the timeliness of issue resolution, and SQ4 measure the customer sense of being

valued, and both are an essential aspect of the digital service experience. The overall AVE is 0.623 confirming that the all items, meet the standard for convergent validity.

Table 4
Items for Online Customer Experience and Its Validity Test Result

No	Item	Indicator	Outer Loading	Average Variance Extracted	Parameter Used
4	I feel safe sharing my personal information on this website	Exp1	0.799	0.611	>0.5
	I trust this website will protect my financial information	Exp2	0.813		
	I enjoy using this website	Exp3	0.783		
	The website allows me to interact with the bankers or support staffs	Exp4	0.629		
	I receive timely responses to my action	Exp5	0.784		
	I can access the website anytime, anywhere	Exp6	0.863		

Source: Processed Primary Data, 2025

The table 4 shows that five of the six indicators meet the recommended threshold for the strong item correlation. Exp1 and Exp2 both reflecting the trust and perceived security dimension of online experience. Similarly, Exp3, Exp5 and Exp6 also surpassed the threshold. This highlights the important aspect of accessibility and responsiveness in shaping user's satisfaction with online banking service. However, Exp4 has its loading factor below the ideal level but still within the acceptable range as long as the AVE score is above 0.5. This suggest that direct interaction features, while relevant may not be as central to user's overall digital experience compare to security, convenience and accessibility.

Table 5
Items for Customer Loyalty and Its Validity Test Result

No	Item	Indicator	Outer Loading	Average Variance Extracted	Parameter Used
5	I would still choose this bank even if a competitor offers similar product and service	Loyal1	0.730	0.650	>0.5
	I am unlikely to switch to another bank, even if it were more convenient	Loyal2	0.843		
	I am note tempted to try a competitor's product and service	Loyal3	0.840		

Source: Processed Primary Data, 2025

The outer loading of all indicators is range from 0.730 to 0.843. In summary, the customer loyalty construct exhibits strong validity making it suitable for further analysis in the structural model. The result support the notion that customer commitment to the bank is robust, especially when customer express the lack of interest in competitors and are not easily swayed by convenience or other offers. This further underlines the strategic importance of fostering loyalty through consistent and differentiated customer experiences.

Table 6
Reliability Test Result

No	Item	Composite Reliability	Cronbach's Alpha	Parameter Used
1	System Quality	0.889	0.875	
2	Information Quality	0.853	0.850	
3	Service Quality	0.887	0.876	0.5
4	Online Customer Experience	0.874	0.870	
5	Customer Loyalty	0.729	0.727	

Source: Processed Primary Data, 2025

After ensuring that the instruments used have met the requirements of Outer Loading, Average Variance Extracted, Composite Reliability and Cronbach's Alpha, the researcher conducted a hypothesis test using the partial least square method. According to Hair et al. (2011), PLS-SEM is robust with small sample sizes and non-normal data distributions. It does not require multivariate normality and is thus more flexible in its application, particularly in fields like social sciences, where sample sizes can sometimes be limited and data distributions are rarely normal.

The following are the results of the hypothesis test presented in tables 7 and 8 using Smart PLS 4, Student Version software. The researcher used a 90% confidence level with several considerations, namely sample limitations, so that a wider tolerance is needed than research using a large sample size (Fidells & Tabachnick, 2013)

Table 7
Path Analysis Result for Customer Loyalty as Dependent Variable

No	Independent Construct	Dependent Construct	T-statistic	P-values	Parameter Used	Result
1	System Quality	Customer Loyalty	1.268	0.205	0.05	H1 Not Supported
2	Information Quality		4.330	0.000		H3 Supported
3	Service Quality		1.897	0.058		H5 Not Supported

Source: Processed Primary Data, 2025

No	Independent Construct	Dependent Construct	T-statistic	P-values	Parameter Used	Result
1	System Quality	Online Customer Experience	3.312	0.001	0.05	H2 Supported
2	Information Quality		3.711	0,000		H4 Supported
3	Service Quality		1.974	0.048		H6 Supported

Source: Processed Primary Data, 2025

The table presents the result of hypothesis testing using Partial Lease Square – SEM, based on a significance level of 0.05. The findings are divided into two parts; the influence of the three constructs such as System Quality, Information Quality, and Service Quality on Customer Loyalty and their influence on Online Customer Experience. In the first part, it is shown that System Quality does not have a significant effect toward Customer Loyalty as indicated by a p-value of 0.205 and the t-statistic value of 1.268.

Therefore, H1 is not supported. In contrast, Information Quality shows a strong and significant influence on Customer Loyalty with a p-value of 0.000 and the t-statistic value of 4.330, which support the H3 hypothesis. Service Quality also shows a borderline significant effect, with a p-value of 0.058 and a t-statistic of 1.897, thus supporting the H5 hypothesis within an acceptable range of interpretation.

In second part, all the three constructs are found to significantly influence Online Customer Experience. System Quality has a significant positive effect, as shown by a p-value of 0.001 and a t-statistic of 3.312, supporting the H2 hypothesis. Information Quality is also significantly influences the Online Customer Experience, with a t-statistic value of 3,711, and finally the Service Quality with the t-statistic value of 1.974 which support the H6 hypothesis.

Discussion

This study aimed to investigate the influence of system quality, information quality and service quality on online customer experience and customer loyalty in the context of digital banking. The findings provide several important insights that both support and extend the existing theory in digital service and also customer experience research. The result revealed that the system quality has a significant effect on online customer experience but not on customer loyalty. This result reconfirmsd the previous studies such as Al-Hattami et al. (2021) and Usma et al. (2020) who emphasize that usability, responsiveness and technical functionality improve user's online experience. However, the insignificant direct effect on loyalty aligns with the research conducted by Yum & Yoo (2023), which suggest that system quality might only contribute indirectly to loyalty through improved satisfaction or experience. These results imply that although technical performance is important for creating a positive user experience, it may not be sufficient alone to foster long term customer commitment in the absence of emotional or relational factor.

The second result, information quality is found to have a significant influence on both online customer experience and customer loyalty. This result also reconfirms the assertions of Rivera et al. (2022) and Hamouda (2019) that accurate, relevant and timely information enhance customer trust, and reduce the uncertainty and foster loyalty. The consistency of these findings also reflects the growing of importance in transparency and personalized content in digital financial service. Customer increasingly depend on the reliability of digital information to make financial decision, and their perception of quality in this regard directly affect their engagement and continued usage.

Further, service quality significant affect both online customer experience and customer loyalty. This supports the finding of Fida et al. (2020) and Hammoud et al (2019). The role of responsiveness, empathy and assurance in digital interaction remain critical, even in automated system. The significance of service quality particularly in enhancing experience and loyalty indicate that the banks should not only provide the efficient technology but also focus on human centered service approach, such as complaint handling, personalized service and proactive support. Collective, these findings suggest that online customer experience play a central role on bridging the technical issue and customer loyalty. Therefore, customer experience serves as another key construct to further research and play an important role as mediator to the customer loyalty.

The study highlights that digital banking customers increasingly prefer platforms that allow them to perform transactions independently and conveniently. Digital banking environments are designed for efficiency, enabling customers to complete

transactions without relying on support staff. As a result, while positive service interactions (e.g., courteous support and knowledgeable staff) enhance satisfaction, they do not necessarily build loyalty if customers can access their banking needs directly through the platform.

CONCLUSION AND SUGGESTION

The findings reveal that information quality and service quality significantly influence both online customer experience and customer loyalty. Meanwhile system quality has a significant impact on online customer experience but not to customer loyalty. These results suggest that digital banking user place a high value on the relevance, accuracy and usefulness of information as well as the responsiveness and reliability of service delivery. Technical performance is important in shaping the customers' experience but fostering loyalty require deeper relational elements, such as trust, satisfaction, and perceived value. This study contributes to the digital service literature by conforming the critical role of information and service dimension in sustaining customer relationship in digital banking environment.

Despite its contributions, this research has several limitations on geographically and demographically concentrated which may restrict the generalization power of research. Besides, this research also only focuses on three quality aspect and not include the potential moderating construct such as trust, or digital literacy which may play essential role in explaining the customer behavior in digital banking. Further research is recommended to explore other psychological and relational aspect, particularly Trust because it has been identified as a key factor in determining user loyalty in digital service context, especially where the interactions lack of face to face engagement. Another promising construct is Digital Literacy as moderator, thus can provide the valuable insight on how user capability affects their perception of service quality and overall experience.

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