

Mediating effect of mobile banking trust on information and system quality

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ABSTRACT

In the context of mobile banking services, trust emerges as a pivotal factor influencing both the acceptance and utilisation of these services, significantly shaping customers' confidence in their usage. Existing literature proposes that trust operates as a mediator in the connection between customers' perceptions of the quality of information and the overall system in mobile banking.

This study aimed to investigate whether trust acts as a mediating variable in the relationship between information and system quality within the mobile banking experiences of Generation Y customers in the South African banking sector. Employing a descriptive research design, the study distributed self-administered surveys to 334 participants who voluntarily took part in the research. The findings of the study reveal that, within the sampled group, trust indeed serves as an intermediary factor between perceived information quality and the overall system quality in the realm of mobile banking. This insight holds significant implications for comprehending customer behaviour, elevating the user experience, addressing perceived risks, and guiding strategic decision-making within the dynamic landscape of the mobile banking industry. Understanding the mediating role of trust enriches the understanding of the complex dynamics involved in customer perceptions and interactions with mobile banking services, offering valuable insights for industry stakeholders aiming to optimise their services and strategies.

JEL classification: M10, M21, M30, M31, O55

Keywords: Mobile banking, Trust, Information quality, System quality

1. INTRODUCTION

Mobile banking has become increasingly popular with the widespread use of smartphones. With more people using mobile banking applications to perform financial transactions, there has been a significant shift in banking habits (Dar, 2019). Mobile banking, categorized under electronic banking (Nyoka, 2018), and alternately known as m-banking (Liu et al., 2009), branchless banking (Ivatury & Mas, 2008), pocket banking (Amin et al., 2006), and m-payments (Donner & Tellez, 2008), stands as a highly efficient banking channel for both businesses and consumers (Nyoka, 2018). It plays a pivotal role in advancing financial inclusion (Nayak et al., 2014). Essentially, mobile banking can be defined as a service provided by retail banks, enabling consumers to remotely perform routine banking tasks using devices such as tablets, mobile phones, or smartphones (Shaikh & Karjaluo, 2015). Alternatively, scholars describe mobile banking as an inventive communication channel, facilitating interaction between consumers and retail banks through portable devices (Akturan & Tezcan, 2012; Masrek et al., 2012; Shih et al., 2010). Furthermore, mobile banking functions as a self-service distribution channel (Jeong & Yoon, 2013), encompassing various manifestations, including downloadable mobile banking and text messaging applications, as well as mobile browser-based programs (Shaikh & Karjaluo, 2015). Nevertheless, there isn't a universally standardized form of mobile banking; rather, diverse models exist to cater to the specific dynamics of a country, considering demographics, consumer profiles, political climate, economic conditions, regulatory frameworks, and the nature of financial systems (Nayak et al., 2014). Regardless of the model or form it takes, mobile banking universally represents a technological innovation with numerous advantages.

Globally, an increasing number of retail banks have dedicated substantial resources to develop and expand their mobile banking operations, driven by the primary objective of enhancing customer service and reaping the associated benefits (Alalwan et al., 2017; Ciunova-Shuleska et al., 2022; Pal et al., 2021). From the standpoint of retail banks, mobile banking offers heightened efficiency (Malaquias & Hwang, 2019) and serves as an appealing banking platform (Zhang et al., 2018). Continuous innovation and enhancement of mobile banking can attract a growing number of consumers, providing retail banks with a competitive edge in the market and ensuring a return on investment in this technology (Sharma et al., 2017). Furthermore, by delivering improved low-cost banking services and overall value, mobile banking is expected to contribute to increased revenues and profits for retail banks (Alalwan et al., 2017; Giovanis et al., 2019). Additionally, the widespread accessibility of mobile banking services has the potential to extend banking services to unbanked populations globally, positioning mobile banking as a gateway to enhancing the overall financial performance of retail banks (Nyoka, 2018). In summary, the strategic investment in mobile banking is seen as pivotal for retail banks seeking to improve their bottom line and maintain a competitive advantage in the evolving financial landscape.

Consumers of mobile banking stand to benefit significantly from the convenience it offers, allowing them to conduct banking activities without any temporal or spatial constraints (Chaouali & El Hedhli, 2019; Hassan & Wood, 2020). Moreover, in comparison to traditional physical banking, mobile banking presents a swift and efficient alternative (Merhi et al., 2019), facilitating easy completion and access to various banking tasks such as inter-account transfers, investments, account balance monitoring, and payments, among others (Owusu Kwateng et al., 2019). Additionally, mobile banking is recognized for reducing the risks associated with fraud and criminal activities, thereby being perceived as a secure and cost-effective option (Balabanoff, 2014). An added advantage, benefiting both consumers and retail banks, is the transition to paperless transactions through mobile banking, contributing to environmental conservation (Yuen, 2022). Overall, the advantages of mobile banking extend beyond mere convenience, encompassing speed, security, cost-effectiveness, and environmental sustainability, making it a compelling choice for both consumers and the financial institutions that offer these services.

The success of mobile banking, however, depends on various factors, including trust, perceived system quality and information quality. This study focuses on examining the mediating role of trust in the relationship between mobile banking information and system quality. By exploring this mediating role, the study seeks to understand how trust plays a crucial role in shaping customers' perceptions and evaluations of both information and system quality in the context of mobile banking.

2. LITERATURE REVIEW

Trust is an indispensable element in any business relationship (Wijaya et al., 2023). The significance of trust is particularly pronounced in the realm of mobile commerce, where it serves a pivotal role in alleviating uncertainty (An et al., 2023). Trust plays a crucial role in the adoption and usage of mobile banking services (Zhu & Wang, 2022). Trust in mobile banking can be operationalised by aggregating customer beliefs in terms of integrity, benevolence, and ability. This operationalisation aims to capture the extent to which customers perceive the mobile banking system as possessing these qualities, ultimately influencing their willingness to rely on mobile banking for conducting financial transactions (Gefen et al., 2003). Customers need to trust that their personal and financial information will be protected, and that the mobile banking system will function as expected (Roh et al., 2022). Several studies have verified the relationship between trust and information quality (Lin et al., 2011; Nicolaou & McKnight, 2006; Zahedi & Song, 2008) as well as between trust and system quality (Zhou, 2011; 2012a; 2012b).

System quality refers to the technical aspects of the mobile banking service, including reliability, usability, performance, and security (Zhou, 2011; Tam & Oliveira, 2017). Customers expect mobile banking applications to function smoothly, without glitches or interruptions (Sharma & Sharma, 2019). They also want their transactions to be secure and protected from unauthorised access (Ivanova & Kim, 2022). The absence of these features may lead mobile banking users to question the service provider's ability to deliver quality service, potentially diminishing users' intention to utilise mobile banking and negatively impacting on their trust in the mobile banking service (Zhou, 2011). On the other hand, when customers perceive the mobile banking system quality to be high, it enhances their trust in the service. In their research, Vance et al. (2008) identified that system quality, encompassing factors such as navigational structure and visual appeal, has an impact on users' trust in mobile commerce technologies. Consistent with existing studies on mobile banking by Zhou (2011; 2012a; 2012b), it has been established that system quality contributes positively to customers' trust in mobile banking. Building on these findings, this study suggests that customers who hold the belief that mobile banking is reliable, easy to navigate and consider it stable for financial transactions are likely to exhibit a trustworthy attitude toward mobile banking. In other words, sufficient system quality is postulated to positively influence trust in mobile banking.

H1: Mobile banking system quality influences mobile banking trust.

In addition, the relationship between system quality and information quality has been explored by various researchers (Gorla et al., 2010; Raymond & Bergeron, 2008; Hasan et al., 2013). These studies propose that system quality is positively linked to information quality. In line with these studies, this study hypothesises that mobile banking system quality positively influences the information quality of mobile banking.

H2: Mobile banking system quality influences mobile banking information quality.

Information quality in mobile banking refers to the accuracy, completeness, and relevance of the financial information provided to customers (Tam & Oliveira, 2017; Zhu & Wang, 2022). Mobile banking applications should offer real-time access to account balances, transaction history, and other relevant financial data (Corporate Finance Institute, 2023). According to literature, mobile banking information quality stands out as a crucial determinant influencing users' attitudes toward the technology they are using (Akter et al., 2013). Therefore, information quality can be regarded as a primary construct that shapes specific behavioural beliefs, influencing the intention to use mobile banking (Wixom & Todd, 2005), and in turn, contributing to user satisfaction (Urbach et al., 2010) and impacting overall user experience (Jung et al., 2009). Poor information quality may necessitate mobile banking users to invest more effort in dissecting information, thereby increasing operational difficulty (Zhou, 2013). In addition, the absence of good information quality may lead to a decrease in user satisfaction, as it fails to meet their expectations of obtaining quality information through the use of mobile banking (Gao & Bai, 2014). This could lead to trust concerns. Trust in mobile banking plays a significant role in shaping the quality of information provided by the mobile banking system. Users who trust the mobile banking service are

more likely to perceive the information offered through the system as reliable, accurate, and relevant. As such, the relationship between mobile banking trust and information quality is reciprocal, creating a symbiotic dynamic. Understanding the interplay between mobile banking trust and information quality is crucial for mobile banking providers. Fostering trust by ensuring security, reliability, and transparency can positively influence users' perceptions of information quality. Therefore, this study proposes that mobile banking trust influences the quality of information in mobile banking.

H3: Mobile banking trust influences mobile banking information quality.

Trust acts as a mediator between customers' perceptions of mobile banking information and system quality (Chung & Kwon, 2009; Kassim et al., 2012). When customers perceive mobile banking system quality to be high (e.g., user-friendly interface, fast and reliable performance), it enhances their trust in the mobile banking service, which, in turn, leads to positive perceptions about mobile banking's information accuracy, relevancy and timeliness. On the other hand, if customers have doubts about the information accuracy or system reliability, their trust may be diminished. Also, it is believed that customers who perceive mobile banking as having high system quality will also perceive it as having high information quality, independent of the trust mechanism. Taken together, this study sought to determine the mediating effect of mobile banking trust on the relationship between mobile banking information and system quality among Generation Y customers.

H4: The relationship between mobile banking system quality and information quality is mediated by mobile banking trust.

The choice of Generation Y, commonly known as millennials, as the target population for this study is grounded in several significant reasons. This demographic cohort, born between 1986 and 2005, is also referred to as the youth (Rahman & Azhar, 2011), and it holds substantial influence and represents a considerable portion of the population globally, accounting for around one-third (Miller & Lu, 2018) and more than one-third of the South African population (Statistics South Africa, 2023). This demographic size makes Generation Y a lucrative and potentially highly profitable consumer banking segment. Furthermore, Generation Y individuals are known for influencing the opinions of others (Werenowska & Rzepka, 2020), being trendsetters (3ManFactory, 2015), and displaying a willingness to adopt innovative technology (Goi & Ng, 2011). In the context of mobile banking, it is assumed that these consumers not only influence others to use mobile banking but could also drive the adoption of digital and mobile banking technologies. Given the digital savviness of this generation, retail banks are urged to continuously adapt to mobile market trends to remain relevant (Yuen, 2022). Determining the mediating role of trust in the relationship between information and system quality of mobile banking among this group of customers is essential for understanding their customer behaviour, enhancing their user experience, mitigating their perceived risk, and guiding strategic decision-making in the mobile banking industry.

3. METHODOLOGY

To conduct this study, a descriptive research design was employed. Self-administered questionnaires using validated scales were developed and distributed to a convenience sample of 334 mobile banking customers from Generation Y, aged 18 to 24 years. The respondents utilised a Likert-type scale, ranging from 1 (strongly disagree) to 6 (strongly agree), to provide their responses to the questionnaire items related to trust in mobile banking, mobile banking information quality and mobile banking system quality (refer to Table 1). The 6-point Likert-type was chosen as it provides more granularity and allows respondents to express a slightly stronger or weaker opinion than they might on a 5-point scale. This increased sensitivity is valuable in capturing more nuance in their responses. In addition, a 6-point scale helps to reduce the issue of respondents choosing the neutral midpoint as a default option when they are uncertain or indifferent. The addition of an extra point can make respondents more thoughtful in their choices.

The questionnaires were administered voluntarily employing a mall-intercept approach. The purpose of the questionnaire was to gather demographic information and assess the participants' trust in mobile banking, their perception of information quality, and their perception of system quality.

Table 1

Questionnaire items

Adapted questionnaire item	Validated scale
Mobile banking trust: I trust mobile banking I can always rely on mobile banking for my banking activities I will feel comfortable using mobile banking to conduct my banking activities	Nor & Pearson (2009)
Mobile banking information quality: Mobile banking can provide me with information relevant to my needs Mobile banking can provide me with sufficient information Mobile banking can provide me with accurate information	Zhou (2011)
Mobile banking system quality: Mobile banking quickly loads all the text and graphics Mobile banking is easy to navigate Mobile banking is visually attractive	Zhou (2011)

The collected data was analysed using IBM SPSS and AMOS statistical software. A range of statistical methods were employed during the analysis, encompassing the computation of summary statistics, assessment of the measurement tool for consistency and its alignment with its intended purpose, examination of relationships between variables, diagnostics for collinearity, and the application of structural equation modelling. In addition, mediation analysis using the PROCESS macro, Version 4.2 was done. The statistical analysis was implemented, as recommended by Hayes (2018). The indirect effect was tested using non-parametric bootstrapping. The null of zero was assessed if it fell between the lower and upper bound of the confidence interval. The confidence interval was set at a 95% level and the percentile bootstrap estimation method with 50 000 samples was selected (Shrout & Bolger, 2002).

4. RESULTS

The fieldwork yielded a response rate of 74%, with 334 valid questionnaires collected out of the 450 questionnaires distributed. Table 2 provides data on the distribution of the sample population across different age groups, languages spoken, province of residence, gender and race.

Table 2

Demographics

N=334	Count	% of total		Count	% of total		Count	% of total
Age			Language			Province		
18	23	6.9%	Afrikaans	31	9.3%	Eastern Cape	7	2.1%
19	47	14.1%	English	25	7.5%	Free State	36	10.8%
20	86	25.7%	IsiNdebele	1	0.3%	Gauteng	191	57.2%
21	83	24.9%	IsiXhosa	23	6.9%	KwaZulu-Natal	9	2.7%
22	48	14.4%	IsiZulu	49	14.7%	Limpopo	38	11.4%
23	29	8.7%	Sepedi	28	8.4%	Mpumalanga	21	6.3%
24	18	5.4%	Sesotho	89	26.5%	Northern Cape	2	0.6%
Gender			Setswana	44	13.2%	North-West	24	7.2%
Female	194	58.1%	SiSwati	13	3.9%	Western Cape	6	1.8%
Male	140	41.9%	Tshivenda	15	4.5%	Race		
			Xitsonga	16	4.8%	Black	281	84.1%
						Coloured	8	2.4%
						Indian/Asian	9	2.7%
						White	36	10.8%

Table 2 reports that the age groups range from 18 to 24. There were 83 participants who are 21 years old, representing 25.7% of the total sample. The various languages spoken by the participants in the sample includes Afrikaans, English, IsiNdebele, IsiXhosa, IsiZulu, Sepedi, Sesotho, Setswana, SiSwati, Tshivenda, and Xitsonga. Of these spoken languages, 89 participants speak Sesotho, making up 26.5% of the total sample. For province of residence, Gauteng has the highest count, with 191 participants (57.2% of the total sample) residing in this province. The least represented province was the Northern Cape at 0.6%. Concerning gender, there are 194 females (58.1% of the total) and 140 males (41.9% of the total) represented in the sample. Finally, the racial demographics of the sample population shows that majority of the sample (84.1%) is Black, while 10.8% are White.

Cronbach's alpha values are used to assess the reliability or internal consistency of a set of questions or items within each latent factor. A higher alpha value indicates higher reliability and suggests that the items within each factor are measuring the same underlying construct consistently. Correlation coefficients (ρ – Spearman's rho) between different latent factors are calculated to quantify the strength and direction of linear relationships between pairs of latent factors.

Table 3 provides information about the latent factors' descriptive statistics, scale reliability, correlation coefficients, and collinearity statistics.

Table 3

Descriptive statistics, scale reliability, correlation analysis and collinearity statistics

Latent factor	\bar{X}	σ	α	Correlation coefficients (ρ)		Collinearity statistics	
				F1	F2	VIF	Tolerance
Trust (F1)	4.28	1.26	0.89	-	-	1.50	0.667
Information quality (F2)	4.63	0.98	0.89	0.572*	-	2.03	0.492
System quality (F3)	4.60	0.91	0.73	0.520*	0.662*	1.92	0.520

* $p < 0.001$

As indicated in Table 3, all mean (\bar{X}) scores surpassed 3.5; therefore, the mean trust score of 4.28 on a six-point Likert-type scale suggests that, on average, Generation Y customers have a moderately positive level of trust in the security and reliability of mobile banking and subsequently confidence in the safety of their financial transactions through mobile banking. The mean for perceived information quality reflects how customers rate the accuracy and completeness of the information they receive through mobile banking. With a mean score of 4.63, it suggests that, on average, customers perceive the information provided by mobile banking as reliable and of good quality and implies that customers generally find the transactional and account information they receive to be accurate and comprehensive. Lastly, a mean score of 4.60 for system quality indicates that, on average, customers find the mobile banking system to be relatively easy to use, efficient, and of good quality. It suggests that customers generally have a positive experience when interacting with mobile banking in terms of ease of use, speed, and overall functionality.

Next, the reliability of each latent factor is assessed. All three latent factors demonstrate good internal consistency ($\alpha > 0.70$) (Malhotra, 2020), with trust and information quality having particularly high reliability.

Having established the reliability of the scales, correlation analysis was done. This analysis shows a correlation between Trust (F1) and Information Quality (F2) ($\rho = 0.572$), which suggests a moderate positive relationship between mobile banking trust and information quality. In practical terms, it signifies that as customers perceive the quality of information provided by mobile banking to be better, they also tend to have higher levels of trust in the service. This finding implies that the accuracy and completeness of mobile banking information can significantly influence Generation Y customers' trust in the platform. Similarly, there is a positive relationship between Trust (F1) and System Quality (F3) ($\rho = 0.520$), suggesting that as users perceive the mobile banking system to be of higher quality, they are also more likely to have greater trust in the service. This correlation underscores the importance of a well-functioning and user-friendly mobile banking platform in building and maintaining Generation Y customers' trust. Finally, the correlation between Information Quality (F2) and System Quality (F3) ($\rho = 0.662$) is also positive, meaning that customers who perceive the quality of information provided by mobile banking to be high are also

likely to perceive the overall quality of the mobile banking system as high. This finding indicates that the quality of information and the quality of the mobile banking system are closely intertwined in Generation Y customers' perceptions. Given these relationships, nomological validity is confirmed (Malhotra, 2020). Furthermore, none of the correlation coefficients surpassed the recommended threshold of 0.90, signifying the absence of evident multicollinearity concerns (Pallant, 2020).

To further explore the potential presence of multicollinearity concerns, collinearity diagnostics on the independent factors (with the subject number as the dependent variable) were conducted. As demonstrated in Table 3, the tolerance values exceed 0.10, and the average VIF of 1.82 comfortably falls below 10. These findings indicate the absence of significant multicollinearity issues among the factors, as per the assessment by Hair et al. (2019).

To test whether the means of the latent factors were statistically significant, a one-sample t-test was done. Table 4 delineates the results.

Table 4
One-sample statistics

Latent factor	t-statistic	p	Cohen's d	95% Confidence interval	
				Lower	Upper
Trust	62.11	<0.001*	1.26	4.15	4.42
Information quality	86.15	<0.001*	0.98	4.52	4.74
System quality	92.47	<0.001*	0.91	4.51	4.70

* $p < 0.001$

As shown in Table 4, there is statistical evidence to suggest that the means of the latent factors are statistically significant ($p < 0.001$). The confidence interval values, both lower and upper, provided additional support for the statistical significance of the means, as they excluded the value of zero. Furthermore, since the Cohen's d-values fell within the range of 0.91 to 1.26, signifying a large effect size according to Cohen's criteria (Cohen, 1992), all latent factors were deemed practically significant.

Subsequently, a maximum likelihood confirmatory factor analysis (CFA) using AMOS was conducted. This analysis encompassed the computation of various statistical measures, including composite reliability (CR) and evaluations of convergent, discriminant, and construct validity. Furthermore, several model fit indices [incremental-fit index (IFI), Tucker-Lewis index (TLI), comparative-fit index (CFI), goodness of fit index (GFI), standardised root mean square residual (SRMR), root mean square error of approximation (RMSEA)] were scrutinised to ascertain that the estimated model fits the observed data. Table 5 presents the results obtained from the analysis.

Table 5
Measurement model statistics, reliability and validity

Latent factor	β	Error variance	CR	AVE	HTMT ratio of correlation	
					F1	F2
Trust (F1)	0.85	0.27	0.89	0.74		
	0.88	0.23				
	0.84	0.29				
Information quality (F2)	0.86	0.26	0.89	0.73	0.63	
	0.88	0.23				
	0.82	0.32				
System quality (F3)	0.84	0.29	0.73	0.50	0.84	0.61
	0.72	0.49				
	0.50	0.76				

Model fit: IFI=0.97; TLI=0.96; CFI=0.97; GFI=0.99 SRMR=0.03; RMSEA=0.07

Evidence in the table confirms the presence of both CR and convergent validity, as evidenced by CR values surpassing 0.70 (Malhotra, 2020) and AVE as well as standardised β values exceeding 0.50 (Hair et al., 2019). Discriminant validity was also established, with HTMT values falling below the threshold of 0.90 (Henseler et al., 2015). As per the criteria by Malhotra (2020), the construct validity of the measures was substantiated through multiple avenues, including convergent and discriminant validity. Additionally, Table 3 attests to the presence of nomological validity, further bolstering the construct validity of the measures. In terms of model fit, the measurement model satisfied all the predefined criteria for model fit; that is, IFI, TLI, CFI and GFI values greater than 0.90, a SRMR < 0.05 and a RMSEA < 0.08 (Malhotra, 2020). As such, the measurement model is deemed suitable for path analysis.

Table 6 presents the outcomes of the structural model paths, encompassing unstandardised and standardised regression estimates (β), along with the associated standard errors (SE) and p-values computed using AMOS.

Table 6
Path analysis

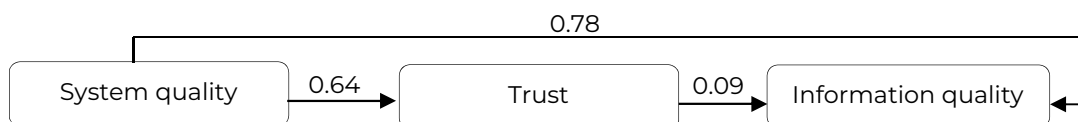
Path	β	Unstandardised β	SE	p-value	Hypothesis
System quality → Trust	0.64	0.80	0.08	< 0.001*	H1: Supported
System quality → Information quality	0.78	0.78	0.08	< 0.001*	H2: Supported
Trust → Information quality	0.09	0.07	0.05	0.164	H3: Not supported

* $p < 0.001$

Model fit: IFI=0.97; TLI=0.96; CFI=0.97; GFI=0.99; SRMR=0.03; RMSEA=0.07

Table 6 reveals that mobile banking system quality has a favourable impact on the trust of Generation Y customers in the platform. However, while mobile banking trust positively affects information quality, this impact lacks statistical significance. This means that Generation Y customers' trust in the mobile banking platform may not directly affect their perceptions of information quality and they might assess the accuracy and reliability of information independently of their trust in the platform. Conversely, the influence of system quality on information quality is both statistically significant and positive. Notably, system quality accounts for approximately 41% ($R^2 = 0.407$) of the variance in trust, while trust and system quality together explain nearly 74% ($R^2 = 0.738$) of the variance in information quality. For a visual representation of the structural model, refer to Figure 1. In addition, the structural model's satisfaction of the fit criteria suggests that it is a robust model for predicting both mobile banking trust and information quality, making it a valuable tool for understanding these relationships.

Figure 1
Structural paths



To investigate if trust acts as a mediator in the association between perceived system and information quality, mediation analysis was conducted using PROCESS macro, Version 4.2. The statistical analysis was performed, as recommended by Hayes (2018). The percentile bootstrap estimation method with 50 000 samples (Shrout and Bolger, 2002) was implemented. The findings of the relationships are summarised in Table 7 and illustrated in Figure 2.

Table 7

Mediation analysis

	β	se	t	p-value	LLCI	ULCI
Outcome variable: Trust						
Perceived system quality	0.702	0.07	10.70	0.001*	0.57	0.83
Outcome variable: Perceived information quality						
Perceived system quality	0.575	0.05	11.91	0.001*	0.48	0.67
Trust	0.214	0.04	6.14	0.001*	0.15	0.28
Total effect of perceived system quality (X) on Perceived information quality (Y)						
	0.725	0.044	16.53	0.001*	0.64	0.81
Direct effect of perceived system quality (X) on perceived information quality (Y)						
	0.575	0.05	11.91	0.001*	0.48	0.67
Indirect effect of perceived system quality (X) on perceived information quality (Y)						
	0.150	0.03			0.09	0.23

* $p < 0.001$

The p -values in Table 7, being lower than 0.05, indicate statistical significance, and the lower and upper confidence intervals (LLCI & ULCI) that do not include zero further support the total, direct and indirect effects of perceived system quality on perceived information quality. In other words, customers who perceive mobile banking as secure and reliable will develop trust in mobile banking, leading to the perception of up-to-date and reliable information. Additionally, customers who perceive mobile banking as having high system quality will also perceive it as having high information quality, independent of the trust mechanism.

Figure 2

Mobile banking system and information quality: mediating role of trust

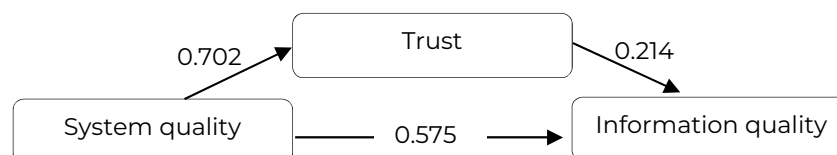


Figure 2 illustrates that the impact of perceived system quality on trust was statistically significant ($b = 0.702$, $se = 0.0656$, $p < 0.001$). Similarly, the effect of trust on perceived information quality was significant ($b = 0.214$, $se = 0.0348$, $p < 0.001$). Furthermore, there was a significant direct effect of perceived system quality on perceived information quality ($b = 0.575$, $se = 0.0483$, $p < 0.001$). Overall, the findings suggest that customers who differ by one unit on the perceived system quality scale are estimated to differ by 0.725 units (total effect) in perceived information quality, with the customer perceiving higher system quality reporting greater information quality. Additionally, there is a difference of 0.150 units in perceived information quality due to the positive influence of perceived system quality on trust in mobile banking, which subsequently enhances perceived information quality. Independently of this process, customers are estimated to differ by 0.575 units in perceived information quality, with the customer perceiving higher system quality also reporting improved information quality. Simply put, customers who perceive mobile banking as having system quality will develop trust in mobile banking, leading to the positive perceptions concerning the information quality of mobile banking. Additionally, customers who perceive mobile banking as having high system quality will also perceive it as having high information quality, independent of the trust mechanism in mobile banking. As such, mobile banking trust mediates the relationship between mobile banking system and information quality, supports the hypothesis formulated for this study (H4).

5. DISCUSSION

The aim of this study was to determine the mediating effect of mobile banking trust on the relationship between mobile banking information and system quality. The results indicate that trust mediates this relationship. This finding is consistent with the findings of previous studies (Chung & Kwon, 2009; Kassim et al., 2012). By examining the mediating role of trust, retail banks gain insights into how customers perceive and interpret the information and system quality of mobile banking. Trust serves as a psychological mechanism that influences customers' attitudes and behaviours towards the service. Therefore, understanding this mediating role helps retail banks comprehend the factors that drive customer decision-making and engagement with mobile banking. In addition, trust plays a pivotal role in shaping customers' overall experience with mobile banking. When trust is established, customers feel more confident and secure in using the service, leading to increased satisfaction and loyalty. As such, by recognising the mediating role of trust, banks and financial institutions can focus on improving information and system quality to strengthen trust, thereby enhancing the user experience, and fostering long-term customer relationships.

Mobile banking involves risks, such as the potential for data breaches or unauthorised access to personal and financial information. Trust acts as a buffer against perceived risk, as customers who trust the information and system quality of mobile banking are more likely to perceive lower levels of risk. Identifying the mediating role of trust helps banks and financial institutions identify strategies to reduce perceived risk and alleviate customer concerns. Furthermore, the mediating role of trust provides valuable insights for strategic decision-making in mobile banking. Recognising and understanding the impact of information quality and system quality on trust, helps inform resource allocation and strategic initiatives that promote trust and customer satisfaction, and retail banks can prioritise investments in areas that enhance these factors. This may include improving data security measures, ensuring accurate and up-to-date information, enhancing user interfaces, and optimising mobile banking functionalities.

Overall, it is recommended that financial institutions focus on providing clear and transparent information to mobile banking users. This can include details about the security measures in place, terms of service, and any other relevant information that can build and maintain trust. In addition, continuous efforts should be made to enhance the overall system quality of mobile banking platforms. This includes regular updates, bug fixes, and improvements to ensure a seamless and reliable user experience. Investing in robust security measures is particularly crucial to bolster trust. Lastly, retail banks should regularly benchmark their mobile banking systems against industry best practices. This ensures that the platform remains competitive, meets or exceeds user expectations, and aligns with evolving industry standards.

6. CONCLUSION

In conclusion, this study illuminates the significant mediating role of trust in the relationship between information and system quality within the context of mobile banking. The findings underscore the pivotal position of trust as an intermediary factor influencing how Generation Y banking customers in South Africa perceive and engage with mobile banking services.

The observed mediation suggests that the trust customers place in mobile banking acts as a bridge between their perceptions of information quality and the overall system quality. This intermediary role plays a crucial part in shaping customer behaviour, influencing their confidence in using mobile banking services.

The implication of these findings extends beyond theoretical considerations, offering practical insights for the mobile banking industry. Understanding the mediating effect of trust provides a strategic lever for enhancing user experiences, mitigating perceived risks, and guiding decision-making processes within the industry.

As trust emerges as a linchpin in the mobile banking landscape, retail banks and policymakers can leverage this understanding to tailor strategies that foster trust among Generation Y customers. This may include initiatives to improve information transparency, enhance system reliability, and communicate security measures effectively.

In essence, recognising and addressing the mediating role of trust is essential for cultivating a positive and resilient relationship between customers and mobile banking services, contributing to the long-term success and sustainability of the industry.

REFERENCES

- 3ManFactory. (2015). *Why is generation Y an attractive target for businesses?*
<https://www.3manfactory.co.uk/news/2015/09/14/why-are-generation-y-an-attractive-target-for-businesses>
- Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market: perceptions and intentions. *Marketing Intelligence Planning, 30*(4), 444-459. <https://doi.org/10.1108/02634501211231928>
- Akter, S., D'Ambra, J., & Ray, P. (2013). Development and validation of an instrument to measure user perceived service quality of mHealth. *Information & Management, 50*(4), 181-195. <https://doi.org/10.1016/j.im.2013.03.001>
- Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: extending UTAUT2 with trust. *International Journal of Information Management, 37*(3), 99-110.
- Amin, H., Hamid, M. R. A., Tanakinjal, G.H., & Lada, S. (2006). Undergraduate attitudes and expectations for mobile banking. *Journal of Internet Banking Commerce, 11*(3), 1-10.
- An, S., Eck, T., & Yim, H. (2023). Understanding consumers' acceptance intention to use mobile food delivery applications through an extended technology acceptance model. *Sustainability, 15*(1), 1-15. <https://doi.org/10.3390/su15010832>
- Balabanoff, G. A. (2014). Mobile banking applications: consumer behaviour, acceptance and adoption strategies in Johannesburg, South Africa (RSA). *Mediterranean Journal of Social Sciences, 5*(27 P1), 247-247.
<https://doi.org/10.5901/mjss.2014.v5n27p247>
- Chaouali, W., & El Hedhli, K. (2019). Toward a contagion-based model of mobile banking adoption. *International Journal of Bank Marketing, 37*(1), 69-96. <https://doi.org/10.1108/IJBM-05-2017-0096>
- Chung, N., & Kwon, S. J. (2009). Effect of trust level on mobile banking satisfaction: A multi-group analysis of information system success instruments. *Behaviour Information Technology, 28*, 549-562. <https://doi.org/10.1080/01449290802506562>
- Ciunova-Shuleska, A., Palamidovska-Sterjadovska, N., & Prodanova, J. (2022). What drives m-banking clients to continue using m-banking services? *Journal of Business Research, 139*, 731-739. <https://doi.org/10.1016/j.jbusres.2021.10.024>
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159. <https://doi.org/10.1037/0033-2909.112.1.155>
- Corporate Finance Institute. (2023). *Mobile banking: the use of a mobile device to carry out financial transactions.*
<https://corporatefinanceinstitute.com/resources/wealth-management/mobile-banking/>
- Dar, Z. (2019). *How smartphones are taking over traditional banking.*
<https://www.financemagnates.com/fintech/payments/how-smartphones-are-taking-over-traditional-banking/>
- Donner, J., & Tellez, C. A. (2008). Mobile banking and economic development: linking, adoption, impact, and use. *Asian Journal of Communications, 18*(4), 318-332. <https://doi.org/10.1080/01292980802344190>
- Gao, L., & Bai, X. (2014). An empirical study on continuance intention of mobile social networking services: Integrating IS success model, network externalities and flow theory. *Asia Pacific Journal of Marketing and Logistics, 26*(2), 168-189.
<https://doi.org/10.1108/APJML-07-2013-0086>
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly, 27*(1), 51-90.
<https://doi.org/10.2307/30036519>
- Giovanis, A., Athanasopoulou, P., Assimakopoulos, C., & Sarmaniotis, C. (2019). Adoption of mobile banking services. *International Journal of Bank Marketing, 37*(5), 1165-1189. <https://doi.org/10.1108/IJBM-08-2018-0200>
- Goi, C. L., & Ng, P. (2011). Perception of young consumers on mobile phone applications in Malaysia. *World Applied Sciences Journal, 15*(1), 47-55. <http://hdl.handle.net/20.500.11937/43088>
- Gorla, N., Somers, T. M., & Wong, B. (2010). Organizational impact of system quality, information quality, and service quality. *Journal of Strategic Information Systems, 19*, 207-228. <https://doi.org/10.1016/j.jsis.2010.05.001>
- Hair, J. F., Black, W.C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis*. Hampshire, UK: Cengage Learning.
- Hasan, Y., Shamsuddin, A., & Aziati, N. (2013). The impact of management information systems adoption in managerial decision making: a review. *The International Scientific Journal of Management Information Systems, 8*(4), 10-17.
- Hassan, H. E., & Wood, V. R. (2020). Does country culture influence consumers' perceptions toward mobile banking? A comparison between Egypt and the United States. *Telematics and Informatics, 46*, 1-14. <https://doi.org/10.1016/j.tele.2019.101312>
- Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication Monographs, 85*(1), 4-40. <https://doi.org/10.1080/03637751.2017.1352100>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science, 43*(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Ivanova, A., & Kim, J. Y. (2022). Acceptance and use of mobile banking in Central Asia: Evidence from modified UTAUT model. *The Journal of Asian Finance, Economics and Business, 9*(2), 217-227.
- Ivatury, G., & Mas, I. (2008). *The early experience with branchless banking. CGAP Focus Note, No. 46, 2008.*
<http://ssrn.com/abstract=1655257>

- Jeong, B. K., & Yoon, T. E. (2013). An Empirical Investigation on Consumer Acceptance of Mobile Banking Services. *Business and Management Research*, 2(1), 31-40. <https://doi.org/10.5430/bmr.v2n1p31>
- Jung, Y., Perez-Mira, B., & Wiley-Patton, S. (2009). Consumer adoption of mobile TV: Examining psychological flow and media content. *Computers in Human Behavior*, 25(1), 123-129. <https://doi.org/10.1016/j.chb.2008.07.011>
- Kassim, E.S., Jailani, S.F.A.K., Hairuddin, H., & Zamzuri, N.H. (2012). Information system acceptance and user satisfaction: the mediating role of trust. *Procedia Social and Behavioral Sciences*, 57, 412-418.
- Lin, H. F. (2011). An empirical investigation of mobile banking adoption: the effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, 31(3), 252-260. <https://doi.org/10.1016/j.ijinfomgt.2010.07.006>
- Liu, Z., Min, Q., & Ji, S. (Eds) (2009). Proceedings from: *The 2nd IEEE International Symposium on Electronic Commerce and Security*. Nanchang, China.
- Malaquias, R. F., & Hwang, Y. (2019). Mobile banking use: a comparative study with Brazilian and US participants. *International Journal of Information Management*, 44, 132-140. <https://doi.org/10.1016/j.ijinfomgt.2018.10.004>
- Malhotra, N. K. (2020). *Marketing research: An applied orientation*. 7th ed. New Jersey: Pearson Prentice-Hall.
- Masrek, M. N., Omar, N., Uzir, N. A., & Khairuddin, I. E., (2012). The impact of technology trust on mobile banking utilisation. *Science Series Data Report*, 4(12), 27-36.
- Merhi, M., Hone, K., & Tarhini, A. (2019). A cross-cultural study of the intention to use mobile banking between Lebanese and British consumers: extending UTAUT2 with security, privacy and trust. *Technology in Society*, 59, 1-12. <https://doi.org/10.1016/j.techsoc.2019.101151>
- Miller, L., & Lu, W. (2018). *Gen Z Is Set to Outnumber Millennials Within a Year*. <https://www.bloomberg.com/news/articles/2018-08-20/gen-z-to-outnumber-millennials-within-a-year-demographic-trends>
- Nayak, N., Nath, V., & Goel, N. (2014). A study of adoption of mobile banking services by Indian consumers. *International Journal of Research in Engineering & Technology*, 2(3), 209-222.
- Nicolaou, A. I., & McKnight, D. H. (2006). Perceived information quality in data exchanges: effects on risk, trust, and intention to use. *Information Systems Research*, 17(4), 332-351. <https://doi.org/10.1287/isre.1060.0103>
- Nor, K. M. & Pearson, J. M. (2008). An exploratory study into the adoption of Internet banking in a developing country: Malaysia. *Journal of Internet Commerce*, 7(1), 29-73. <https://doi.org/10.1080/15332860802004162>
- Nyoka, C. (2018). An examination of the factors that determine consumers' adoption of mobile banking services in South Africa. *EuroEconomica*, 3(37), 116-129.
- Owusu Kwateng, K., Osei Atiemo, K. A., & Appiah, C. (2019). Acceptance and use of mobile banking: an application of UTAUT2. *Journal of Enterprise Information Management*, 32(1), 118-151. <https://doi.org/10.1108/JEIM-03-2018-0055>
- Pal, A., Herath, T., De, R., & Rao, H. R. (2021). Why do people use mobile payment technologies and why would they continue? An examination and implications from India. *Research Policy*, 50(6), 1-24. <https://doi.org/10.1016/j.respol.2021.104228>
- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using the IBM SPSS*. 7th ed. Berkshire: McGraw-Hill. <https://doi.org/10.4324/9781003117445>
- Raymond, L., & Bergeron, F. (2008). Project management information systems: An empirical study of their impact on project managers and project success. *International Journal of Project Management*, 26(2), 213-220. <https://doi.org/10.1016/j.ijproman.2007.06.002>
- Roh, T., Yang, Y. S., Xiao, S., & Park, B. I. I. (2022). What makes consumers trust and adopt fintech? An empirical investigation in China. *Electronic Commerce Research*. <https://doi.org/10.1007/s10660-021-09527-3>
- Rahman, S., & Azhar, S. (2011). Xpressions of generation Y: perceptions of the mobile phone service industry in Pakistan. *Asia Pacific Journal of Marketing and Logistics*, 23(1), 91-107. <https://doi.org/10.1108/13555851111100012>
- Shaikh, A. A. & Karjaluo, H. (2015). Mobile banking adoption: a literature review. *Telematics and Informatics*, 32, 129-142. <https://doi.org/10.1016/j.tele.2014.05.003>
- Sharma, S. K., Govindaluri, S. M., Al-Muharrami, S., & Tarhini, A. (2017). A multi-analytical model for mobile banking adoption: a developing country perspective. *Review of International Business and Strategy*, 27(1), 133-148. <https://doi.org/10.1108/RIBS-11-2016-0074>
- Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management*, 44, 65-75. <https://doi.org/10.1016/j.ijinfomgt.2018.09.013>
- Shih, K., Hung, H., & Lin, B. (2010). Assessing user experiences and usage intentions of m-banking service. *International Journal of Mobile Communications*, 8(3), 257-277. <https://doi.org/10.1504/IJMC.2010.032974>
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422-445. <https://doi.org/10.1037/1082-989X.7.4.422>

- Statistics South Africa. (2023). *Mid-year population estimates 2022. (Statistical release P0302)*. <http://www.statssa.gov.za/publications/P0302/P03022022.pdf>
- Tam, C., & Oliveira, T. (2017). Understanding mobile banking individual performance: The DeLone & McLean model and the moderating effects of individual culture. *Internet Research*, 27(3), 538-562. <https://doi.org/10.1108/IntR-05-2016-0117>
- Urbach, N., Smolnik, S., & Riempp, G. (2010). An empirical investigation of employee portal success. *The Journal of Strategic Information Systems*, 19(3), 184-206. <https://doi.org/10.1016/j.jsis.2010.06.002>
- Vance, A., Elie-Dit-Cosaque, C., & Straub, D.W. (2008). Examining trust in information technology artifacts: the effects of system quality and culture. *Journal of Management Information Systems*, 24(4), 73-100. <https://doi.org/10.2753/MIS0742-1222240403>
- Werenowska, A., & Rzepka, M. (2020). The role of social media in Generation Y travel decision making process. *Information*, 11(8), 2-14. <https://doi.org/10.3390/info11080396>
- Wijaya, I.F., Moro, A., & Belghitar, Y. (2023). Trust in Islamic business-to-business relationships: evidence from Indonesia. *British Journal of Management*, 34(1), 111-128. <https://doi.org/10.1111/1467-8551.12584>
- Wixom, B. H., & Todd, P. A. (2005). A Theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, 16(1), 85-102. <https://doi.org/10.1287/isre.1050.0042>
- Yuen, M. (2022). *State of mobile banking in 2022: top apps, features, statistics ad market trends*. <https://www.insiderintelligence.com/insights/mobile-banking-market-trends>
- Zahedi, F. M., & Song, J. (2008). Dynamics of trust revision: using health infomediaries. *Journal of Management Information Systems*, 24(4), 225-248. <https://doi.org/10.2753/MIS0742-1222240409>
- Zhang, T., Lu, C., & Kizildag, M. (2018). Banking „on-the-go“: examining consumers' adoption of mobile banking services. *International Journal of Quality and Service Sciences*, 10(3), 279-295. <https://doi.org/10.1108/IJQSS-07-2017-0067>
- Zhou, T. (2011). An empirical examination of initial trust in mobile banking. *Internet Research*, 21(5), 527-540. <https://doi.org/10.1108/10662241111176353>
- Zhou, T. (2012a). Understanding users' initial trust in mobile banking: an elaboration likelihood perspective. *Computers in Human Behavior*, 28, 1518-1525. <https://doi.org/10.1016/j.chb.2012.03.021>
- Zhou, T. (2012b). Examining mobile banking user adoption from the perspectives of trust and flow experience. *Information Technology and Management*, 13(1), 27-37. <https://doi.org/10.1007/s10799-011-0111-8>
- Zhou, T. (2013). An empirical examination of continuance intention of mobile payment services. *Decision Support Systems*, 54, 1085-1091. <https://doi.org/10.1016/j.dss.2012.10.034>
- Zhu, J., & Wang, M. (2022). Analyzing the effect of people utilizing mobile technology to make banking services more accessible. *Frontiers in Public Health*, 10, 1-9. <https://doi.org/10.3389/fpubh.2022.879342>