MODERATING ROLE OF CUSTOMER RELATIONSHIP MANAGEMENT BETWEEN SERVICE QUALITY AND CUSTOMER SATISFACTION OF DIGITAL BANKS

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Abstract

In the highly competitive digital banking sector, ensuring customer satisfaction is essential for sustaining growth and fostering long-term loyalty. This underscores the importance of service quality and customer relationship management in shaping customer experiences and retention. This study examined the moderating role of customer relationship management between service quality and customer satisfaction of digital banks using quantitative research design. A structured questionnaire was used to collect data from customers actively using digital banking services in Osogbo, Osun State, Nigeria. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to analyse the data. The path analysis results reveal that service quality has a strong impact on customer satisfaction ($t=94.501$, $p=0.000<0.05$) and customer relationship management significantly influences customer satisfaction ($t=29.274$, $p=0.000<0.05$). Additionally, it was found that customer relationship management moderates the relationship between service quality and customer satisfaction ($t=31.761$, $p=0.000<0.05$). These findings confirm that customer relationship management plays a crucial moderating role in strengthening the relationship between service quality and customer satisfaction in digital banks. The study highlights the importance of integrating effective customer relationship management strategies to maximize customer satisfaction, providing valuable insights for digital banks aiming to enhance the customer experience.

Keywords: Service quality, Customer relationship management, Customer satisfaction, Digital banks, Customer experience

Introduction

Customers are the lifeline of any business, as it is often said that without customers, there is no business. This underscores the importance of building and maintaining strong customer relationships to sustain growth and competitiveness. Studies have shown that banks increasingly rely on relationship management to create value propositions tailored to individual customer needs. Loyalty programs are a core component of such strategies, fostering trust and confidence, which translate into customer satisfaction and long-term profitability (Ansari et al., 2021). Similarly, relationship management seeks to align customer needs with service promises, thus enhancing customer loyalty (Agrawal et al., 2024). In today's competitive banking landscape, institutions that lack robust marketing strategies are at risk of failure. Customer satisfaction, a critical outcome of effective relationship management, has the potential to transform satisfied customers into advocates for the brand. Such advocacy is essential in retaining customers and encouraging them to recommend the bank's services to others, which in turn strengthens profitability (Hassan, 2024). In the banking sector, customer loyalty is directly tied to strategies that prioritize trust, enhance service quality, and foster customer satisfaction. Scholars have argued that trust plays a pivotal role in relationship management, with effective strategies enabling banks to sustain customer relationships (Rahman et al., 2023).

Effective relationship management goes beyond focusing on profitable customers to maintaining relationships across diverse customer segments. This ensures a comprehensive approach to customer satisfaction. Satisfied customers, irrespective of their initial profitability, can be converted into valuable customers over time (Chung et al., 2020). Banks must therefore view all customers as potential long-term assets. Thus, providing quality services tailored to meet customer needs remains a cornerstone of relationship management. Banks must develop a deep understanding of customer behaviours to design effective customer relationship management campaigns that strengthen relationships and improve retention rates (Suhud & Bajunaid, 2018). Customer relationship management systems are increasingly used to gather and analyze customer data, enabling banks to identify preferences and tailor services to meet specific needs. Research highlights that this personalization is critical to achieving lasting customer loyalty (Islam et al., 2020).

Moreover, trust, commitment, effective communication, and conflict resolution are critical to fostering customer satisfaction. These factors enable organizations to understand and address customer preferences effectively. When these elements are integrated into customer relationship management strategies, banks can build enduring customer relationships that drive loyalty and competitive advantage (Saeidi & Hollensen, 2024). This relationship-centric approach ensures that customers remain loyal even amidst intense market competition. The adoption of electronic banking in Nigeria has significantly changed banking operations, improving service delivery and profitability while reducing operational costs. It has also become a competitive tool for banks seeking to attract more customers. The rise of digital banking has transformed the financial sector, enabling fast, efficient, and accessible customer service. However, digital banks, which have streamlined many banking processes, face challenges in maintaining high service quality and ensuring customer satisfaction, especially in the absence of traditional face-to-face interactions. Customer satisfaction is crucial in digital banking, as satisfied customers are more likely to remain loyal and advocate for the bank, contributing to long-term profitability.

Service quality is a key determinant of customer satisfaction, yet research indicates that service quality alone may not fully capture what drives customer satisfaction in a digital environment (Opuni, 2023). Customer relationship management has emerged as a critical factor, as it enhances digital interactions, personalizes experiences, and fosters stronger client connections (Muntean et al., 2022). Despite the rapid adoption of digital banking and the recognized importance of service quality and customer satisfaction, limited research exists on the moderating role of customer relationship management between these two variables in digital banking. Without a clear understanding of this relationship, digital banks may struggle to optimize customer interactions, risking dissatisfaction and attrition to competitors.

This knowledge gap also limits the ability of digital banks to refine customer relationship management strategies that align with high service quality expectations, potentially undermining customer satisfaction. The objective of this study is to identify the moderating role of customer relationship management between service quality and customer satisfaction with digital banks. The findings will guide policymakers, banking institutions, and managers in developing strategies that ensure the effective implementation of customer relationship management systems, enhancing the quality of services and improving customer satisfaction for sustainable success. This could lead to higher profitability for banks and more satisfied customers, contributing to a more robust financial ecosystem in Nigeria.

Literature Review

Theoretical Framework

This study is underpinned by two complementary theories: the SERVQUAL Model and the Expectancy-Disconfirmation Theory (EDT). These theories collectively provide insights into the dynamics of service quality, customer satisfaction, and the moderating role of customer relationship management in digital banking. The SERVQUAL Model, developed by Parasuraman et al. (1988), is a widely recognized framework for evaluating service quality. It identifies five critical dimensions—tangibles, reliability, responsiveness, assurance, and empathy—that collectively shape customer perceptions of service quality. These dimensions provide a structured approach to assessing the quality of services delivered by organizations, including banks. The SERVQUAL model remains highly relevant. For example, tangibles in digital banking pertain to the design, usability, and accessibility of mobile apps and websites. Reliability emphasizes consistent system uptime and accurate transaction processing. Responsiveness involves addressing customer inquiries promptly, while assurance focuses on fostering trust and confidence in the security of digital platforms. By identifying and addressing gaps between customer expectations and actual service delivery, the SERVQUAL model serves as a diagnostic tool for digital banks to prioritize areas of improvement that most significantly impact customer satisfaction (Bhat & Darzi, 2020).

Expectancy-Disconfirmation Theory (EDT) was proposed by Oliver in 1977 and provides a framework for understanding customer satisfaction through the lens of expectation and performance comparison. According to Expectancy-Disconfirmation Theory (EDT), satisfaction arises when actual performance meets or exceeds customer expectations (positive disconfirmation). Conversely, when actual performance falls short of expectations (negative disconfirmation), dissatisfaction occurs. EDT is particularly relevant to the digital banking environment, where customer expectations are shaped by technological advancements, competitor offerings, and evolving digital experiences. Customers expect seamless mobile app functionality, robust cybersecurity measures, and prompt issue resolution. Banks that fail to meet these expectations risk dissatisfaction and customer attrition. This theory emphasizes the importance of aligning service delivery with customer expectations, setting realistic promises, and delivering consistent results.

In digital banking, customer relationship management plays a pivotal role in operationalizing EDT by helping banks manage customer expectations and ensure alignment between anticipated and actual outcomes (Alomari, 2024). Through personalized interactions and data-driven insights, customer relationship management enables banks to meet or exceed customer expectations, fostering satisfaction and loyalty. By integrating the SERVQUAL model and Expectancy-Disconfirmation Theory, this study aims to explore how customer relationship management moderates the relationship between service quality and customer satisfaction. The combination of these theories provides a robust framework for understanding the mechanisms through which digital banks can enhance customer experiences and build lasting relationships.

The Concept of Service Quality

Service quality is widely recognized as the ability of an organization to consistently meet or exceed customer expectations through effective and reliable service delivery. Rawashdeh et al. (2021) define it as the overall experience shaped by the interaction between the customer and the service provider. Parasuraman et al. (1988) introduced the SERVQUAL model, which identifies five key dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. These dimensions remain fundamental, particularly in digital banking, where quality is assessed through system reliability, user-friendly interfaces, robust data security, and responsive customer support (Bhat & Darzi, 2020).

The growing reliance on digital platforms has transformed how customers perceive and evaluate service quality in the banking sector. According to (Agrawal et al., 2024), trust and reliability are indispensable in defining service quality, as they contribute significantly to building long-term customer relationships. Similarly, (Alomari, 2024) emphasizes the dual role of functional and emotional factors in shaping customer perceptions, noting that both are essential for fostering satisfaction and loyalty. Banks that align their services with customer expectations and leverage these factors effectively are more likely to achieve sustained customer engagement.

Digital banking requires an evolved approach to service quality due to customers' high expectations for seamless experiences in areas such as account management, transaction processing, and real-time assistance. Studies by Chauhan et al. (2022) and (Gupta et al., 2023) highlight that customers expect uninterrupted service, fast resolutions to queries, and robust security systems. Failure to meet these expectations can lead to dissatisfaction and increased attrition rates, especially in competitive markets where customers can easily switch to alternative providers.

Furthermore, research underscores that service quality is closely linked to operational efficiency and customer advocacy. Banks that consistently deliver high service quality often enjoy enhanced customer loyalty and benefit from positive word-of-mouth referrals(Hassan, 2024). In Nigeria, where digital banking adoption is accelerating, service quality has become a crucial factor in addressing challenges such as limited internet access, inadequate digital literacy, and cybersecurity concerns. Digital banks that prioritize quality by ensuring secure systems, responsive customer care, and reliable service delivery are better positioned to gain customer trust and foster loyalty (Muntean et al., 2022).Synthesizing these perspectives, service quality in digital banking can be defined as the consistent ability of institutions to provide efficient, secure, and customer-centric services that not only meet but exceed user expectations. By focusing on trust, reliability, and technological efficiency, banks can strengthen customer satisfaction and competitiveness in the ever-evolving financial landscape. Hence, it is hypothesized that:

H_1: Service quality has a significant positive impact on customer satisfaction with digital banks.

Role of Customer Relationship Management

Customer relationship management systems are central to achieving the goals of a business by enabling personalized interactions, resolving conflicts, and fostering trust through consistent and responsive communication (Muntean et al., 2022). Customer relations form the foundation of customer satisfaction and loyalty. Because of the dynamic and aggressive nature of tody's business scape, participants in the service industry should device a way of maintaining durable relationship with customers and various stakeholders (Akekue & Kalu, 2017). Adeniyi (2023) highlights that banks that prioritize robust customer relations experience enhanced retention, advocacy, and competitiveness. As long as this mutual relationship continues to exist between customers and firms, including the banking sector, defection might likely occur (Akekue & Amue, 2016). This is particularly relevant in the digital banking environment, where intense competition demands that banks deliver personalized services that convert customers into brand advocates.(Saeidi & Hollensen, 2024) emphasize that digital banking extends customer relations beyond transactional interactions, fostering trust-based connections that drive long-term engagement.

Studies substantiate the importance of customer relationship management in improving customer satisfaction and loyalty. Suhud and Bajunaid (2018) found that data-driven customer relationship management strategies, such as personalized communication and predictive analytics, significantly enhance customer satisfaction. Bhat and Darzi (2020) further emphasized customer relationship management critical role in moderating the impact of service quality on satisfaction, particularly through real-time problem resolution and personalized interactions. These findings highlight in addressing customer needs and ensuring seamless experiences. However, much of this research has focused on developed markets like Europe and North America, where digital banking infrastructure is advanced, leaving room for exploration in emerging markets like Nigeria.

In Nigeria, where digital banking adoption is rapidly growing, customer relations play an even more critical role in overcoming challenges such as trust deficits, cybersecurity concerns, and limited internet access. Digital banks must leverage customer relationship management strategies to address these challenges and meet evolving customer expectations. Research by (Agrawal et al., 2024) underscores that trust and reliability are pivotal for fostering satisfaction and loyalty in digital banking. By integrating customer relations into their business strategies, Nigerian banks can ensure sustainable growth, enhance customer satisfaction, and build a loyal customer base. Robust customer relations also provide a platform for innovation. By enabling real-time interaction and personalization, customer relationship management fosters trust and loyalty, which are essential for customer retention in a competitive market. As noted by (Hassan, 2024), customer relationship management helps banks bridge gaps in service quality, thereby reducing customer churn and sustaining profitability. Banks that consistently prioritize customer relations are better positioned to thrive in the increasingly technology-driven financial landscape. Customer relations serve as the backbone of success in digital banking. By leveraging customer relationship management systems to foster trust, personalize services, and address grievances proactively, banks can enhance satisfaction and loyalty. This approach is particularly critical in markets like Nigeria, where digital banking is evolving and customer trust is still being established. Thus, it is proposed that:

H_2: Customer relationship management (CRM) significantly enhances customer satisfaction with digital banks.

Customer Satisfaction

Customer satisfaction refers to the extent to which customer expectations align with their actual experiences, serving as a key determinant of customer retention, loyalty, and profitability. According to (Rahman et al., 2023), satisfied customers are more likely to remain loyal, advocate for the brand, and contribute to profitability through repeat business and referrals. In the banking sector, customer satisfaction is influenced by factors such as service quality, customer support, and the reliability of banking platforms.

Customer satisfaction is shaped by the ease of use of digital platforms, transaction security, and the responsiveness of customer support. Alomari (2024) emphasizes that personalization and responsiveness are essential for ensuring customer satisfaction, especially in digital banking environments where customer expectations evolve rapidly. Effective customer relationship management systems allow banks to tailor services to individual needs, thereby enhancing satisfaction levels. This is particularly critical in Nigeria, where customer familiarity with digital banking platforms varies widely, requiring banks to deliver personalized and adaptive services to meet diverse expectations.

Research highlights the significance of customer satisfaction as both an outcome and a feedback mechanism for banks. Satisfied customers are more likely to provide constructive feedback, enabling banks to identify areas for improvement and align their offerings with customer needs. This cyclical process of feedback and improvement ensures that digital banks remain competitive and customer-centric. Agrawal et al. (2024) argue that customer relationship management systems play a pivotal role in fostering satisfaction by anticipating customer needs and streamlining service delivery.

Empirical evidence underscores the importance of customer relationship management in achieving high customer satisfaction. (Saeidi & Hollensen, 2024) examined customer relationship management strategies in digital banking within the Middle Eastern and found that systems prioritizing customer needs and delivering personalized services significantly improved customer satisfaction and loyalty. Their findings emphasized responsive service and consistent communication as key factors in fostering trust. However, while their study provides valuable insights, its focus on cultural and technological factors in the Middle East may not directly translate to Nigeria, where challenges like limited internet access and cybersecurity concerns require localized solutions. Agrawal et al. (2024) explored the strategic importance of customer relationship management in fostering satisfaction and loyalty in digital banking. Their findings highlighted that personalized experiences and efficient services directly contribute to long-term customer relationships. Similarly, Rahman et al. (2023) suggest that customer relationship management systems enable banks to anticipate customer needs and enhance satisfaction through improved service delivery. However, while these studies acknowledge the role of service quality in satisfaction, they often overlook the interconnectedness between service quality, customer relationship management, and satisfaction, particularly in emerging markets like Nigeria.

In Nigeria, where the digital banking landscape is still evolving, customer satisfaction plays a critical role in driving adoption and loyalty. Banks that leverage customer relationship management to provide secure, reliable, and user-friendly digital experiences can build trust and satisfaction, which are essential for sustaining competitiveness. Robust customer satisfaction strategies also address trust deficits and create positive perceptions of digital banking services, thereby fostering long-term customer satisfaction in a challenging market environment. Customer satisfaction in digital banking is a multifaceted concept driven by service quality, customer relationship management, and customer-centric strategies. By integrating these elements, banks can ensure positive customer experiences that build trust, and drive sustainable growth. This approach is particularly important in Nigeria, where diverse customer expectations and infrastructural challenges necessitate adaptive and innovative satisfaction strategies. Consequently, it is hypothesized that:

H_3: Customer relationship management significantly moderates the relationship between service quality and customer satisfaction with digital banks.

Methodology

The study adopted a quantitative research design to investigate the moderating role of customer relationship management between service quality and customer satisfaction of digital banking in Osogbo, Osun State, Nigeria. The target population is comprised of customers actively using digital banking services in Osogbo, Osun State. Due to time and resource constraints, a non-probability sampling technique, specifically convenience sampling, was employed. This method involves selecting respondents who are readily accessible and willing to participate in the study. The Krejcie and Morgan (1970) table was used to determine the required sample size of 382 respondents. Data collection was conducted using a structured questionnaire designed to capture information on service quality, customer relationship management and customer satisfaction. The questionnaire was structured into three sections: demographic information, perceptions of service quality, and evaluations of customer relationship management and customer satisfaction. A total of 240 respondents completed the questionnaire, and their responses were used for analysis. The collected data was analyzed using descriptive statistics (percentages) to summarize demographic characteristics and Structural Equation Modeling (SEM) to test the study hypotheses. SEM is particularly suitable for this study as it allows for the simultaneous analysis of direct, indirect, and moderating effects within a single model. This approach which also has structural paths are designed to provide causal explanations (Hair et al., 2019 as cited in Akekue-A, et al, 2024) and ensures a comprehensive understanding of the interplay between service quality, customer relationship management and customer satisfaction.

Data Analysis and Results

Demographic characteristics

Table 1 Demographical characteristics of respondents

Characteristics	Frequency	Percentage
Gender		
Male	112	46.7
Female	128	53.3
Age (in years)		
Below 18	18	7.5
18-30 years	149	62.1
31-45 years	66	27.5
46 years and above	7	2.9
Level of Education		
Secondary school	-	-
OND/NCE	56	23.3
HND/B.Sc.	160	66.7
Postgraduate Level	24	10.0
Digital Bank used		
Opay	109	45.4
Kuda	27	11.3
Palmpay	71	29.6
Pagatech	33	13.8
Monie Point	-	-

Table 1 presents the demographic characteristics of the respondents. In terms of gender distribution, 112 respondents (46.7%) were male, while 128 (53.3%) were female, indicating a slightly higher representation of females. Regarding age, the majority (149 respondents, 62.1%) were within the 18-30 years category, followed by 66 respondents (27.5%) aged 31-45 years, 18 respondents (7.5%) below 18 years, and only 7 respondents (2.9%) aged 46 years and above. In terms of education, most respondents 160(66.7%) held an HND/B.Sc, while 56 (23.3%) had OND/NCE, and 24 (10.0%) had a postgraduate qualification. No respondents reported having only a secondary school education. Regarding digital banking usage, Opay was the most used platform, with 109 respondents (45.4%), followed by Palmpay with 71 respondents (29.6%), Pagatech with 33 respondents (13.8%), and Kuda with 27 respondents (11.3%). No respondents reported using Monie Point.

Convergent Validity and composite reliability

Table 2 Validity and Reliability of the constructs

First-order constructs	Items	Loadings	AVE	CR
Service Quality	SQ1	0.913	0.609	0.969
	SQ2	0.488		
	SQ3	0.689		
	SQ4	0.778		
	SQ5	0.900		
	SQ6	0.737		
	SQ7	0.870		
Customer Relation Management	CRM1	0.903	0.601	0.926
	CRM2	0.724		
	CRM3	0.701		
	CRM4	0.828		
	CRM5	0.419		
	CRM6	0.851		
	CRM7	0.889		
Customer Satisfaction	CS1	0.746	0.739	0.955
	CS2	0.945		
	CS3	0.886		
	CS4	0.843		
	CS5	0.804		
	CS6	0.930		
	CS7	0.847		

Table 2 presents the validity and reliability results of the construct variables. The results indicate that all measurement items have factor loadings above the minimum acceptable threshold of 0.5, except for SQ2 (0.488) and CRM5 (0.419), which are below the threshold, potentially affecting construct validity. The average variance extracted (AVE) values for Service Quality (0.609), Customer Relationship Management (0.601), and Customer Satisfaction (0.739) all exceed the recommended threshold of 0.50, suggesting that the constructs satisfy convergent validity. Additionally, the composite reliability (CR) values for Service Quality (0.969), Customer Relationship Management (0.926), and Customer Satisfaction (0.955) are above the required threshold of 0.70, indicating that the measurement items exhibit strong internal consistency and reliability.

Discriminant Validity

Table 3 Fornell- Larcker Criterion

Constructs	CRM	CS	SQ
Customer Relationship Management	0.775		
Customer Satisfaction	0.912	0.860	
Service Quality	0.777	0.850	0.780

Table 3 presents the Fornell-Larcker criterion results for assessing discriminant validity. The bolded diagonal values represent the square root of the average variance extracted (AVE) for each construct, while the off-diagonal values indicate inter-construct correlations. For discriminant validity to be established, the square root of the AVE should be greater than the correlations between constructs. The findings show that the diagonal values for Customer Relationship Management (0.775), Customer Satisfaction (0.860), and Service Quality (0.780) are all higher than their corresponding inter-construct correlations. This indicates that the constructs meet the criteria for discriminant validity, confirming that they are distinct from one another.

Table 4 Indicator Item Cross-Loading

indicator items	SQ	CRM	CS
SQ1 The digital banking platform is easy to use and navigate.	**0.913**		
SQ2 The digital banking service has minimal downtime or technical issues.	**0.488**		
SQ3 I find the customer support provided by the digital banking service to be responsive and helpful.	**0.689**		
SQ4 The digital banking services are reliable and meet my needs without interruptions.	**0.778**		
SQ5 The digital banking services are always accessible and available when I need them.	**0.900**		
SQ6 The speed of digital transactions is satisfactory to me.	**0.737**		
SQ7 The security features of digital banking give me confidence in using the platform.	**0.870**		
CRM1 The digital bank offers personalized services based on my preferences.		**0.903**	
CRM2 The digital bank frequently communicates with me to understand my needs and concerns.		**0.724**	
CRM3 I feel that the bank values my loyalty through rewards or offers.		**0.701**	
CRM4 The customer relationship management team is proactive in addressing my concerns.		**0.828**	
CRM5 The bank uses customer data to improve services that meet my expectations.		0.419	
CRM6 I receive relevant and timely communication from the digital bank that enhances my experience.		**0.851**	
CRM7 The digital bank consistently uses customer feedback to improve its services.		**0.889**	
CS1 I am satisfied with the overall experience of using digital banking services.			**0.746**
CS2 I feel that digital banking services meet my expectations.			**0.945**
CS3 The digital banking platform makes my banking tasks easier and more efficient.			**0.886**
CS4 I would recommend digital banking services to others based on my satisfaction.			**0.843**
CS5 My satisfaction with digital banking services has increased over time.			**0.804**
CS6 I am likely to continue using digital banking because of my satisfaction with the service.			**0.930**
CS7 Digital banking services provide a high level of convenience and satisfaction.			**0.847**

The items have higher loadings across the individual construct

The results of the cross-loadings in Table 4 show that all item loadings are higher on their respective constructs compared to other constructs, confirming discriminant validity. Service Quality items load strongly on SQ, with SQ1 (0.913) and SQ5 (0.900) showing the highest values. Customer Relationship Management items also exhibit high loadings, particularly CRM1 (0.903) and CRM7 (0.889), emphasizing personalized services and customer feedback. Customer Satisfaction items load highest on CS, with CS2 (0.945) and CS6 (0.930) being the strongest indicators. These findings confirm that the constructs meet the criteria for discriminant validity.

Table 5 Heterotrait-monotrait (HTMT) ratios

Constructs	CRM	CS	SQ
Customer Relationship Management			
Customer Satisfaction	0.929		
Service Quality	0.753	0.875	

Table 5 presents the HTMT ratios for the constructs, showing that all values are below the threshold of 1.00. The results indicate that the constructs maintain discriminant validity, aligning with Kline (2011).

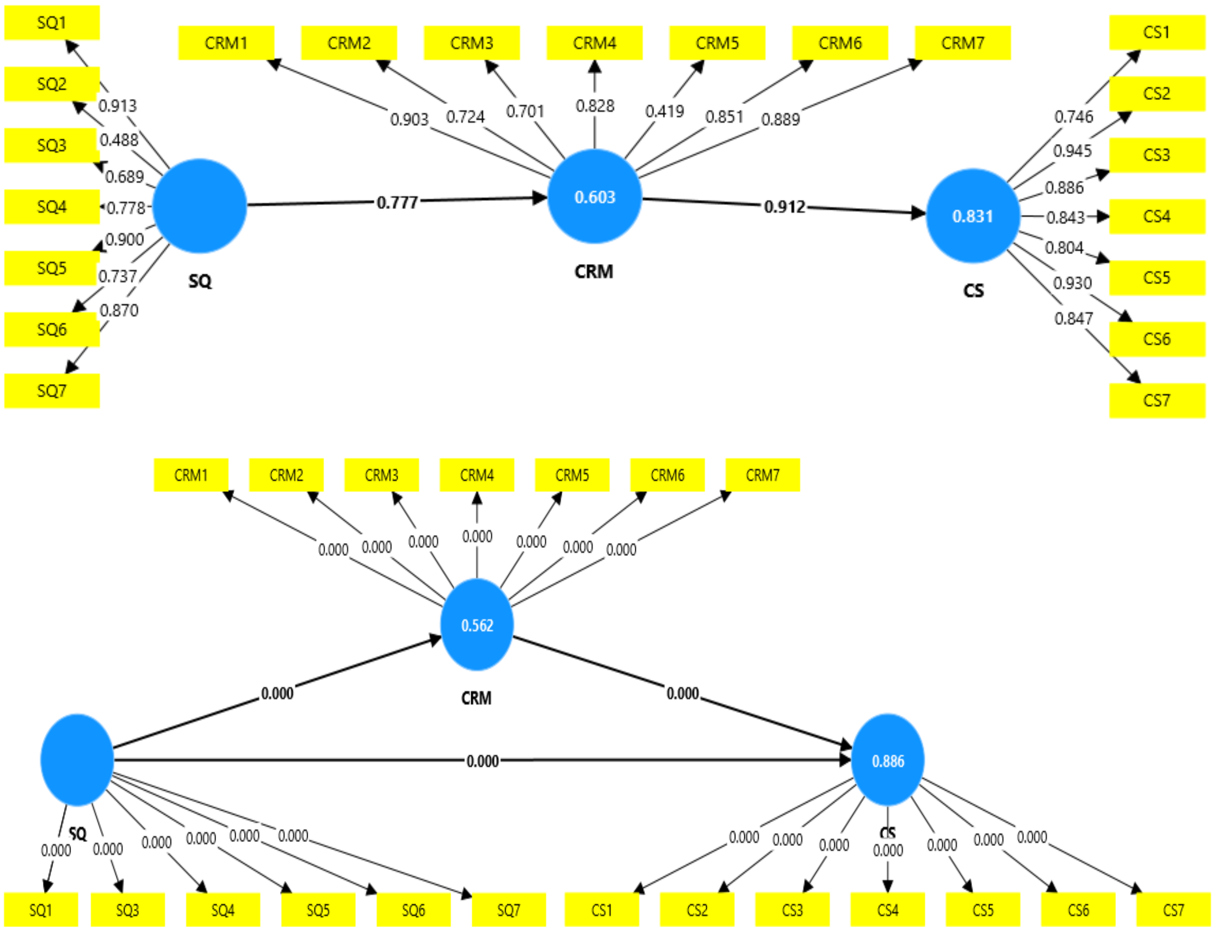

Figure 1 PLS algorithms

Path Analysis

Figure 1 illustrates the structural relationships among service quality (SQ), customer relationship management (CRM), and customer satisfaction (CS). The path analysis results indicate that service quality has a strong positive effect on customer relationship management, with a path coefficient of 0.777, suggesting that better service quality enhances customer relationship management, practices. Additionally, customer relationship management, has a substantial impact on customer satisfaction, with a path coefficient of 0.912, indicating that improved customer relationship management, strategies significantly contribute to customer satisfaction. The indirect effect of service quality on customer satisfaction, mediated through customer relationship management, further highlights customer relationship management, essential role in converting service quality improvements into enhanced satisfaction levels. These findings emphasize the necessity for businesses to prioritize service quality, as it not only strengthens customer relationship management, but also indirectly boosts customer satisfaction.

Model Fit

The model fit, as shown in Figure 1, demonstrates strong predictive power through high R^2 values. The R^2 value of 0.621 for customer relationship management, indicates that 62.1% of its variance is explained by service quality, confirming that service quality is a key determinant of effective customer relationship management. Similarly, the R^2 value of 0.831 for customer satisfaction reveals that 83.1% of its variance is accounted for by customer relationship management,, emphasizing that customer relationship management, is a crucial driver of customer satisfaction. These high R^2 values suggest that the model effectively explains the relationships among the variables, confirming its reliability. Overall, Figure 1 provides strong evidence that service quality significantly enhances customer relationship management, which in turn plays a major role in driving customer satisfaction, supporting a well-fitting and reliable model.

Table 6 Hypotheses testing

Hypothesized path	Beta	T Statistics	P value	Decision
H1. Service Quality - Customer Satisfaction	0.009	94.501	0.000	Supported
H2. Customer Relationship Management – Customer Satisfaction	0.020	29.274	0.000	Supported
H3. Service Quality – Customer Relationship Management - Customer Satisfaction	0.014	31.761	0.000	Supported

Table 6 presents the results of the hypotheses testing, showing that service quality and customer relationship management significantly influence customer satisfaction. The findings indicate that service quality has a positive impact on customer satisfaction ($t = 94.501$, $p = 0.000<0.05$). Similarly, customer relationship management also significantly affects customer satisfaction ($t = 29.274$, $p = 0.000<0.05$). Additionally, the results confirm that customer relationship management, influences service quality, which in turn enhances customer satisfaction ($t = 31.761$, $p = 0.000<0.05$). These results suggest that both service quality and customer relationship management, play crucial roles in improving customer satisfaction, with customer relationship management, also contributing indirectly through its impact on service quality. Hence, H_1, H_2, and H_3 were supported.

Discussion of Findings

The findings of this study provide empirical evidence supporting the significant influence of service quality and customer relationship management on customer satisfaction in digital banking. The hypothesis testing results indicate that service quality has a direct and positive impact on customer satisfaction. This aligns with previous research, such as Bhat and Darzi (2020), which emphasizes the importance of responsiveness, reliability, and security in fostering positive customer experiences. The high factor loadings of service quality items further substantiate the critical role of seamless digital banking services in ensuring customer satisfaction.

Also, the study confirms that customer relationship management, significantly enhances customer satisfaction. This finding is consistent with existing literature that highlights the role of customer relationship management, in building trust, personalizing customer interactions, and improving overall engagement (Suhud & Bajunaid, 2018). The high impact of customer relationship management, on customer satisfaction underscores the necessity for banks to adopt customer-centric strategies, such as real-time communication and personalized banking services, to drive customer retention and loyalty.

Moreover, the results validate the moderating role of customer relationship management, in the relationship between service quality and customer satisfaction. This suggests that banks that effectively integrate customer relationship management, into their service delivery can amplify the positive effects of service quality on customer satisfaction. The findings highlight the interconnectedness of these constructs, emphasizing that customer relationship management, serves as a crucial intermediary that enhances customer experiences by addressing service gaps and improving customer engagement.

Conclusion and Implications

This study contributes to the growing body of literature on digital banking by demonstrating the significant impact of service quality and customer relationship management on customer satisfaction. The findings indicate that high service quality and robust customer relationship management strategies are essential for ensuring customer satisfaction and long-term engagement in digital banking. From a managerial perspective, digital banks should invest in customer relationship management technologies to enhance personalization, customer engagement, and trust. Also, banks should ensure the reliability, security, and accessibility of their digital platforms to improve service quality. Implementing targeted loyalty programs, proactive communication, and responsive customer support will further strengthen customer relationships and retention.

Policymakers and regulators can also draw insights from this study to develop frameworks that promote high service quality and customer-centric banking practices. Strengthening cybersecurity measures and ensuring financial inclusivity through improved internet access and digital literacy programs will be crucial for sustaining the growth of digital banking in Nigeria.

Limitations and Future Directions of the Study

While this study provides valuable insights, it is not without limitations. The study focuses on digital banking users in Osogbo, Osun State, which may not fully capture variations in digital banking experiences across different regions of Nigeria. Future research should consider a broader geographic scope to account for regional differences in digital banking adoption and service expectations. Also, while this study examines customer relationship management as a moderator, other potential moderating variables, such as trust, perceived risk, and financial literacy, could further explain variations in customer satisfaction. Future studies should explore additional moderating and mediating factors to provide a more comprehensive understanding of the determinants of customer satisfaction in digital banking.

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