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The Impact of Customer Relationship Management on Enhancing Service Quality of Commercial Banks Nigeria: The Moderating Role of Customer Commitment

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ABSTRACT

The objective of this study was to examine the impact of Customer Relationship Management on enhancing Service Quality of commercial banks in Nigeria under the moderating role of Commitment from customer perspective. In Nigeria, Commerical banks are being compelled to implement a customer-focused strategy as a result of rising customer expectations in the business environment and, this raises the significance of customer-related constructs like CRM and Service quality in explaining commercial bank service quality as it relates to the issue of service in consistency and unmet expectation. The CRM dimensions Customer value, customer engagement, customer involvement, customer orientation, customer knowledge, and customer attraction. Service quality was the Independent variable while customer commitment was used as the moderator. Expectancy disconfirmation theory, customer engagement theory and trust and commitment theory are used as the underpinning theories in this study. Based on the theoretical framework, nine hypotheses were developed and tested. The methodology of the study is quantitative and cross sectional survey and respondents were chosen from retail customers of Commercial bank in Nigeria. Proportional and convenient sampling was applied for the selection of the respondents. The hypotheses of the study were tested, ranging from data screening process, descriptive analyses,assessment of the measurement model, and assessment of the structural model. Current research proposed nine direct relationship of which all were accepted which indicates that the proposed impact between variables are statistically significant. Moreover Customer Commitment has shown a significant moderating effect which implies that it strengthens the relationship between customer involvement, engagement, and service quality. Further more, this research provides actionable recommendations for the management of commercial banks in Nigeria, emphasizing the importance of integrating Customer Relationship Management (CRM) strategies with Customer Commitment to enhance Service Quality.

Keywords: Customer Value, Customer Engagement, Customer Involvement, Customer Orientation, Customer Commitment, Service Quality
JEL classifications: M31, M31, M31,M31,M31, L84

1. INTRODUCTION

This study focused on the impact of customer relationship management on enhancing service quality of commercial banks in Nigeria under customer commitment's moderating role. The CRM measures include customer involvement, customer knowledge, Customer value, Customer orientation, Customer engagement and Attraction to Service quality.

According to Abdel Fattah (2015), service quality is an important concept in the service industry, and it is especially important in the financial services sector, where it is difficult to differentiate their customers' service. Service quality is an important factor in keeping the banking sector competitive. Many practitioners and researchers have been compelled in recent years to consider service quality due to its impact on customer value (Malik et al., 2011). High service quality is related to customer relationship management, according to Pantouvakis (2014) and Raza et al. (2015). One of the ideas associated to customer relationship management is service quality (Berry et al., 1985). It is critical for the banking industry to satisfy the demands of its customers. The role of the banking industry, as well as its impact on Customers,

is the subject of discussion in the literature Dos Santos and Jucá, (2024).

In the Nigerian banking industry, customer relationship management and service quality have become major focus areas for bank executives. This is because they have a significant impact on business performance and customer service delivery. As a result, Nigerian banks now regard it as part of their strategic plan, with characterization based on customer services across the country.

According to the Central Bank of Nigeria (CBN) 2024, Nigeria currently has 24 licenced commercial banks. Commercial banks in Nigeria play an important role in mobilising financial resources for investment by mobilising investors, boosting businesses, and providing financial services to the public in order to make profit.

In competitive market, customers perceive high-quality service as a crucial distinguishing factor among service providers, offering a competitive edge. Many businesses have implemented service quality programmes to evaluate customers' perceptions of overall service quality and its different aspects Ravishankar and Christopher (2024).

The banking industry faces strict and intense competition on how to improve the service quality. Customer service in the Nigerian banking industry can be mistaken to mean customer delay and frustration. Almost every Nigerian bank encounters a similar problem in meeting customers' expectation of services. The significance of the impact of customer relationship management on enhancing service quality of commercial banks the moderating role of organizational commitments forms the basis for developing a theoretical framework for this study. For instance, delay in posting transactions such as money transfer and payments between customers is a significant problem that Nigerian banks' customers have experienced. In most cases, the customer hardly receives the notification that an account has been credited or debited immediately. The account holder may have to wait endlessly before seeing the notification or, in worse cases, may have to visit the bank to confirm such transaction.

Customers' expectation in the post-consolidation era of the Nigerian banking sector is very high. This is justified by the belief that the exercise had crowded out incompetent banks and left only those able to compete in domestic and global marketplaces. However, in recent times, most Nigerian banks have fallen short of this expectation. Customers have experienced challenges ranging from delay transaction notification, stock out, non-availability of staff at service points, unprofessional conduct, or rude behaviours by the staff of the banks, low standard of records or improper information, failed promises, among others Ogunnaike and Ogbari (2008) and Farayibi (2016).

Existing literature on Customer Relationship Management (CRM) often examines its dimensions in isolation rather than as interconnected constructs, limiting a holistic understanding of their collective impact on service quality (Tseng and Wu, 2014).

This study addresses this gap by investigating the combined effect of CRM dimensions—customer involvement, engagement, attraction, value, knowledge, and orientation—on service quality. Expectancy Disconfirmation Theory (EDT) provides a framework for analysing how CRM elements (e.g., customer orientation, knowledge, involvement, and engagement) shape service quality perceptions. Customer Engagement Theory further explains how CRM dimensions (e.g., attraction and value) drive engagement, enhancing service quality.

Most CRM studies focus on employees' implementation of CRM strategies, neglecting the customer perspective, which is crucial for assessing CRM effectiveness (Farrell et al., 2001; Wachner et al., 2009). Given that customer-employee interactions significantly influence service quality (Kim, 2009), this study shifts focus to customers' experiences with CRM initiatives. By applying Customer Engagement Theory, it highlights the role of active customer participation in improving engagement strategies and service quality in banks.

Based on these gaps, this research aims to determine the impact of CRM on service quality in Nigerian commercial banks, with customer commitment as a moderating factor.

2. LITERATURE REVIEW

2.1. The Concept of Service Quality

The concept of service has been defined since the 1980s, with Churchill and Surprenant (1982) and Parasuraman et al. (1985) emphasizing customer relationship management through service quality measurement. Service quality is achieved when a firm meets or exceeds customer expectations. Grönroos (1982) explained that service quality is assessed based on functional service encounters and technical outcomes, later refined by Parasuraman et al. (1988).

Service quality is commonly conceptualized as a multi-dimensional construct with five key dimensions: Responsiveness, Assurance, Tangibility, Empathy, and Reliability (RATER) (Cronin and Taylor, 1992; Parasuraman et al., 1988). Tangibility refers to physical aspects like staff and equipment (Naik et al., 2010). Reliability reflects service consistency and accuracy, while responsiveness denotes employees' willingness to assist customers (Parasuraman et al., 1988). Assurance involves staff expertise, courtesy, and trust, while empathy signifies personalized customer service (Robledo, 2001).

2.2. Gaps in Literature

Abbas and Hafeez (2017) examined the impact of customer relationship management (CRM) practices on service quality in the banking sector, using a survey of 230 bank customers in Rawalpindi, Pakistan. The study found CRM practices significantly influenced service quality. However, it lacks details on sample demographics, banking tiers, and customer segments. Additionally, the research does not specify whether structured questionnaires, Likert scales, or other instruments were used, nor does it mention reliability or validity tests.

Al-Qeed et al. (2017) explored CRM dimensions' influence on service quality, highlighting customer attraction and value. While

the study confirms a significant relationship, it does not clearly explain how attracting new customer's links to service quality. Similarly, Boussalem (2022) found a strong relationship between customer attraction, value, and service quality but did not specify how service quality was measured, particularly regarding customer acquisition. A narrow definition of service quality may overlook key factors such as personalization and responsiveness.

Azhar (2015) investigated the relationship between CRM, customer knowledge, and service quality using a quantitative design with SPSS and regression analysis. Of 667 distributed questionnaires, only 100 valid responses were received, a low 15% response rate, raising concerns about sample representativeness. Despite finding a significant impact of CRM and customer knowledge on service quality, the study's small sample size limits the reliability of its conclusions.

Tseng and Wu (2014) examined the impact of customer knowledge and customer relationship management (CRM) on service quality using questionnaires and statistical analysis. The study found that customer knowledge positively influences service quality, with CRM acting as a partial mediator—enhancing service quality and providing competitive advantages. However, the study only collected data from the company's perspective, creating a one-sided view that overlooks actual customer experiences and perceptions.

Rafaeli et al. (2008) investigated the effect of call center employees' customer orientation behaviors (COBs) on service quality in retail banking. Using deductive analysis, they found that service interactions were rated higher when employees demonstrated COBs. The study provided qualitative insights into employee behaviours linked to service quality and quantitatively validated their importance. However, it focused solely on phone-based call centres, neglecting other service channels like live chat or in-person interactions.

Chang et al. (2021) investigated the relationship between customer engagement and service quality, finding a positive influence. However, the study focused on Taiwan's aesthetic medicine sector, a niche market where engagement may be uniquely strong. Its applicability to other industries, such as banking or e-commerce, remains unclear.

Conversely, Dhasan and Aryupong (2019) found a negative relationship, suggesting that excessive engagement can overwhelm customers or lead to unmet expectations. Similarly, Wang et al. (2007) argued that customer involvement can negatively impact service quality, potentially depending on factors like service complexity and customer knowledge.

Dadfar et al. (2013) explored customer involvement's effect on service quality, finding a significant positive relationship across industries like education, software development, and finance. However, their study relied heavily on qualitative data. Incorporating quantitative measures (e.g., surveys or performance metrics) could strengthen the findings.

Moorman et al. (1992) define customer commitment as a long-term desire to maintain a valuable relationship. This concept encompasses three key aspects: (1) commitment must be long-term to facilitate future transactions (Dwyer et al., 1987); (2) it reflects a willingness to establish a relationship with legal obligations; and (3) it requires high customer satisfaction for continuity (Dwyer et al., 1987; Morgan and Hunt, 1994).

To justify the moderating role of customer commitment, Rizomyliotis et al. (2022) suggest that customer affective commitment moderates the relationship between customer experience and satisfaction.

2.3. Theoretical Framework

Expectancy Disconfirmation Theory (EDT): Explains how customer expectations and perceived service performance impact satisfaction. When service matches expectations, confirmation occurs; exceeding expectations leads to positive disconfirmation, while falling short results in negative disconfirmation (Oliver, 1980).

Customer Engagement Theory (CET): Highlights customer participation in service enhancement. Brodie et al. (2011) define engagement as an iterative process fostering emotional investment and deeper brand relationships.

Trust and Commitment Theory: Morgan and Hunt (1994) emphasize trust and commitment as key drivers of successful relationship marketing.

2.4. The Relationship between Customer Value and Service Quality

According to Rust et al. (2000), customer value positively influenced perceived service quality and negatively by price perceptions. Al-Qeed et al. (2017) studied the impact of customer relationship management dimensions on achieving service quality where customer value was one of the CRM dimensions, the author posited that there was significant relationship between customer attraction and Service quality furthermore, Boussalem (2022) posited that there was significant relationship between customer attraction and service Quality So, it is hypothesised that:

H_1: Customer Value is positively related to service Quality.

2.5. The Relationship between Customer Knowledge and Service Quality

Customer knowledge refers to an organisation's ability to educate the customers to ensure the customers can cope with current changes in customer-related policies and services and become more adaptive (Aldosari et al., 2016). Thus, customers' knowledge bridged the existing gap between the customers and the organization (Tseng and Wu, 2014). Azhar (2015) examined the relationship between customer relationship management, customer knowledge and service quality, findings revealed that Customer knowledge positively influenced service quality. Furthermore, Tseng and Wu (2014). Examined the impact of customer knowledge and customer relationship management on service quality, findings reveal that customer knowledge positively influenced service quality So, it is hypothesised that:

So, it is hypothesised that:

H_2: Customer Knowledge is positively related to service Quality.

2.6. The Relationship between Customer Value and Service Quality

Al-Qeed et al. (2017) studied the impact of customer relationship management dimensions on achieving service quality where customer value was one of the CRM dimensions, the author posited that there was significant relationship between customer value and Service quality furthermore, Boussalem (2022) posited that there was significant relationship between customer value and service Quality Therefore, we propose a hypothesis that:

H_3: Customer Attraction is positively related to service Quality.

2.7. The Relationship between Customer Engagement and Service Quality

Delivering high-quality service to customers is also critical for the survival of the organization (Brady et al., 2006). A review of the relationship marketing and management literature showed clearly that customer engagement has the potential to affect service quality (Bowden, 2009; Brodie et al., 2013), customer relationship management (Fernandes and Esteves, 2016; Hapsari et al., 2017; Hollebeek, 2011). Chang et al. (2021), investigated the relationship between customer engagement and service quality, findings reveal that customer engagement positively influences service quality. Customer engagement is positively related to service quality because engaged customers are more likely to provide feedback, participate in co-creation of value, and actively contribute to service improvement. This higher engagement enhances their overall perception of service quality So; it is hypothesised that:

H_4: Customer engagement is positively related to service quality

2.8. The Relationship between Customer Orientation and Service Quality

The relationship between customer orientation and service quality has been extensively researched, yielding a variety of perspectives. Kim (2011), Blocker et al. (2011) opined that customer orientation predicts service quality and empirically showed that customer orientation mediates the relationship between customer relationship management and firm performance.

So, it is hypothesised that:

H_5: Customer orientation is positively related to service Quality.

2.9 The Relationship between Customer Involvement and Service Quality

Customer involvement is widely recognized as a critical factor in promoting service quality across sectors, with the aim of enhancing business performance (Prahalad and Ramaswamy, 2004; Bitner et al., 2008; Grönroos, 2007). Mandolfo et al. (2020) Tseng and Chiang (2016) suggested that customer involvement is a noteworthy element influencing the successful development of services with customers. When customers have a high level of personal involvement that engages in creating services, they like to provide suggestions on service development and improvement.

So, it is hypothesised that:

H_6: Customer involvement is positively related to service Quality.

2.10. The Relationship between Customer Commitment and Service Quality

The impact of customer commitment on service quality is significant, as committed customers often exhibit behaviors that directly enhance service quality and improve the overall service environment. Customers with a high level of a commitment are more willing to help a service provider achieve its goal (Meyer and Allen, 1991), Yingfei, Mengze, and Ki-Hyung, (2022), opined that customer commitment encourages continuous feedback, helps in service recovery, which in turn positively contribute to improving overall service quality

H_7: Customer commitment is positively related to Service Quality.

2.11. The Moderating Effect of Customer Commitment on Customer Engagement and Service Quality

Customers displaying commitment tend to generate positive actions post-service, such as recommending the firm to other customers (Shukla et al., 2016). Customer commitment can positively influence customer engagement (Keiningham et al., 2015).

Bozkurt et al. (2022). Investigated the moderating role of customer commitment on the impact of physiological customer engagement and service related behaviour, findings reveal that customer commitment moderates the relationship between psychological engagement and service-related behaviours.

H_8: Customer Commitment moderates the relationship between Customer engagement and service quality.

2.12. The Moderating Effect of Customer Commitment on Customer Involvement and Service Quality

The literature on customer-relationship management also supports the view that if customers are committed to the organization, they will show higher levels of involvement with the organization's benefit service programs (Bloemer and Ruyter 1999, Curran and Healy, 2014). Rizomyliotis et al. (2022) investigated the moderating effect of customer commitment on the relationship between customer experience and customer satisfaction, findings reveal that customer commitment moderates the relationship between customer experience and customer satisfaction.

H_9: Organizational Commitment moderates the relationship between Customer involvement and service quality.

3. METHODOLOGY

This study employed a quantitative survey method, which, according to Cooper and Schindler (2003), aims to obtain accurate data from respondents at a specific point in time. The research explored the relationship between Customer Relationship Management (CRM) and Service Quality in Nigerian commercial banks.

This study's sample size was determined by using Krejcie and Morgan's sample size calculation. The Krejcie and Morgan's sample size calculation was based on the Krejcie, and Morgan's. Sample size calculation was based on P = 0.05, where the probability of committing a type, I error is <5% or <0.05.

s = X2 NP (1-P) ± d2 (N—]) +X2 P(1—P) (3.1)

Where 's' = required sample size

X2 =The table value of chi-square for 1 degree of freedom at the desired confidence

Level (0.05 = 3.841)

N = the population size

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size

d = the degree of accuracy expressed as a proportion (0.05)

s = 450.17(round up to 450)

The sample size That is calculated is 450.

Therefore, to evaluate service quality of commercial bank when the population size is 1 million, where the probability of committing a type I error is <5% or <0.05. With a confidence level of 95%, a sample size of 450 is regarded appropriate, 504 questionnaires were distributed to the customers of commercial banks in Nigeria, of which 450 respondents completed and returned the questionnaire.

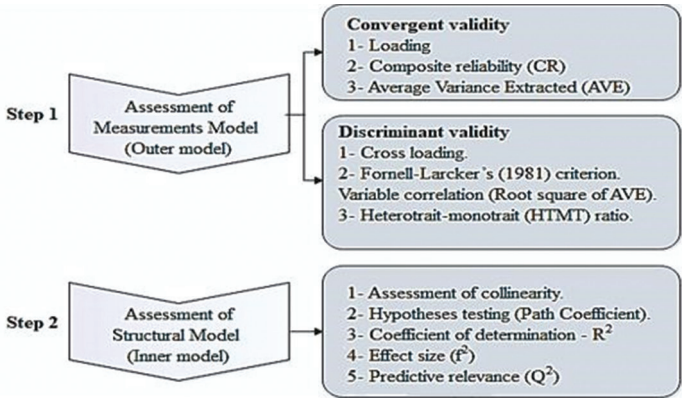
The demographic of commercial bank respondents can be summarized as follows: In terms of gender, 68% of the sample were of males, while 30% consist of females. The age classification with the highest amount of respondents (30.8%) fell within the range of 35–44 years old. About 68% of the bank customers were working with government sector. above 46.8% of the respondents reported to have earned more than N50,000. Among those that were surveyed, 48.3% were employed. For the past 12 months, approximately 70.5% of the respondents were account holders of commercial banks in Nigeria.

The instrument's reliability was determined through a pilot test as listed in Table 1. The test included a pilot sample of 100 respondent retail customers of commercial bank in Nigeria. The pilot study findings enabled the researcher to assess the content, chronology, form, and arrangement of questions, as well as the challenges in understanding the questions provided by Malhotra and Peterson (2006). Cronbach's alpha coefficient, as recommended by Malhotra and Peterson (2006) as a standard measure of inter-item consistency dependability, was also utilised to examine the instrument's reliability.

3.1. PLS Model Assessment

Figure 1 depict the standard steps taken to assess the PLS SEM model (Henseler et al., 2009). According to Henseler et al. (2009), the overall process has eleven (11) stages which is divided into two broad categories namely, measurement model and structural model. The measurement model six stages are further divided into two categories namely convergent and discriminant validity. To measure data convergent validity, the researcher needed to observe the constructs loading (CL), composite reliability (CR) and the average variance extracted (AVE). whereas, the process under the discriminant validity includes assessing the cross loadings, Fornel Larcker Criterion and the Heterotrait Monotrait (HTMT) ratio. These stages are presented in Figure 2.

Figure 1: Summary of PLS-SEM model evaluation processes



Source: Adapted from Henseler et al., 2009

3.2. Measurement Model Validation for First Order Constructs

Figure 2 presents the research measurement model. Assessing the measurement model allows the researcher to fulfil the criteria needed to be fulfilled using PLS-SEM to analyse empirical research data.

To ensure a valid and reliable measurement model, construct validity, convergent validity, and discriminant validity were assessed (Henseler et al., 2009; Henseler et al., 2012). Convergent validity was evaluated through outer loadings, Composite Reliability (CR), and Average Variance Extracted (AVE), while internal consistency was measured using CR. Discriminant validity was assessed using the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait (HTMT) ratio. According to Anderson and Gerbing (1988), establishing these validity measures before analyzing the structural model ensures meaningful inferences. The pictorial summary is presented in Figure 2.

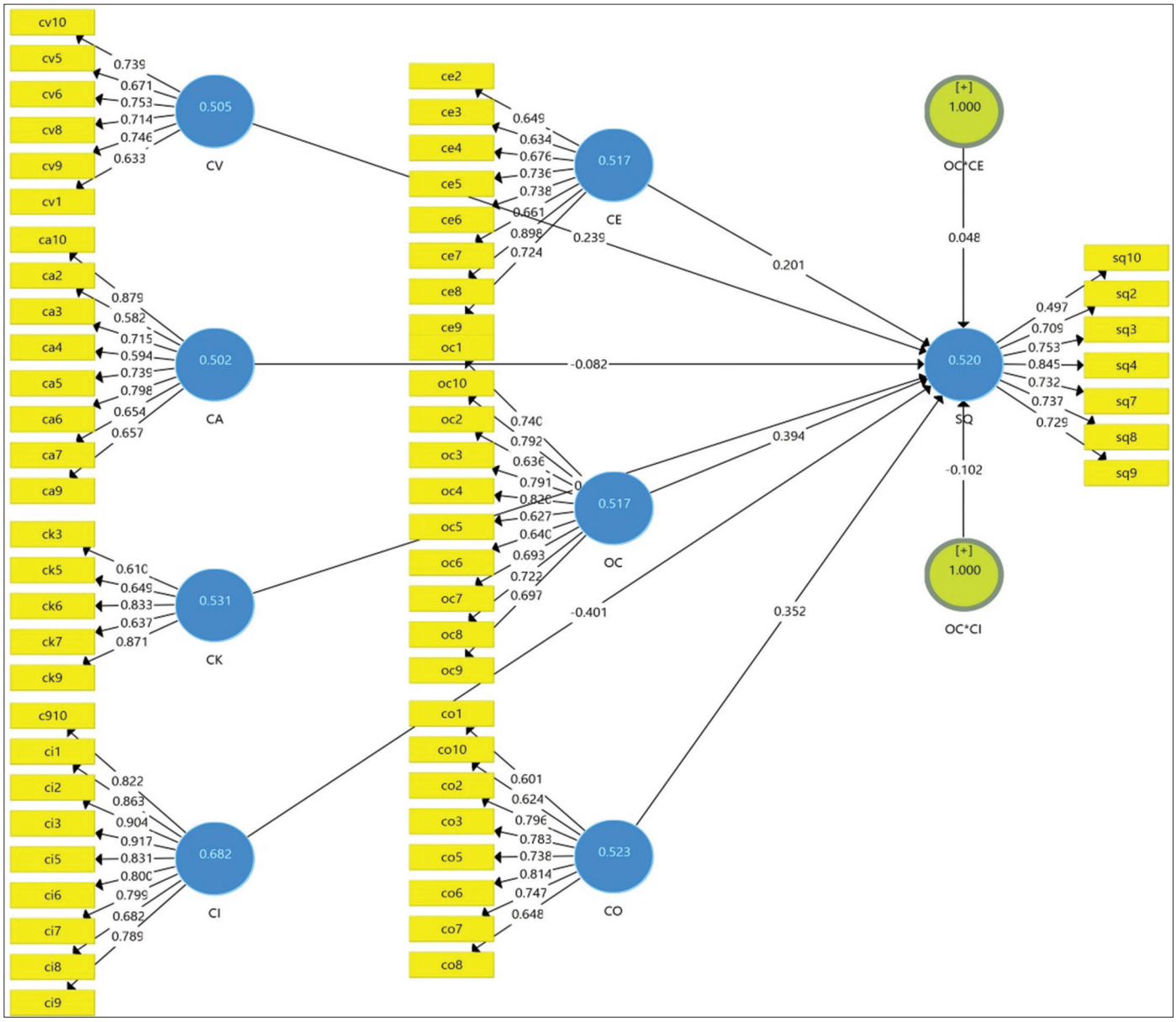
3.3. Convergent Validity

Convergent validity is a subcategory under construct validity. The convergent and discriminant validity seeks agreement between a specific measuring instrument and the theoretical concept. The principal objective is to verify if the measurement scales truly represent its attributes (Tore, 2005). From the proposition of Hair et al. (2010) and Henseler et al. (2012), item loading, AVE, and composite reliability are conventionally being used in assessing convergent validity. Therefore, convergent validity is said to be confirmed.

Henseler et al. (2012) argued that composite reliability is a more reliable estimate in estimating a variable's reliability. Garson (2016) suggests using composite reliability to measure the convergent validity of a reflective model. Convergent validity is confirmed if the research measures reflect the variables or constructs to which the researcher intends to measure. On composite reliability, Henseler et al. (2012) suggest that the composite reliability value is 0.7 or higher. In this research, the CR values, presented in Table 2 shows CR to range from 0.882 to 0.95. The results in this regard, therefore, indicates that the condition for composite reliability is achieved.

This research also uses AVE to measure its convergent validity. AVE is the average variance extracted shared between variables

Figure 2: PLS-SEM measurement model



and their measures. Couchman and Fulop (2006) suggest that AVE's value for a variable should be higher than the variance shared between variables, especially with other variables. Nevertheless, Barclay et al. (1995) proposed 0.50 as the AVE rule of thumb. The AVE and the composite reliability (CR) values for the studied variables are presented in Table 2.

Meanwhile, to achieve the desired results that correspond with the posited proposition, the research dropped some items. The items dropped includes 'ca1; ce1 and ce10; ci4; ck1, ck2, ck4, ck8, and ck10; co4 and co9; cv2, cv3, cv4, and cv7 and sq1, sq5, sq6 and sq10. After deleting these items, the data then fulfilled the measurement model criteria.

3.4. Discriminant Validity

Referring to the description of discriminant validity proposed by Duarte et al. (2010), discriminant validity is the extent to which a particular latent construct is different from others. In this research, discriminant validity is ascertained using the Fornel Larcker, in which the bold diagonal path relates to the square root of AVE, and the Heterotrait-Monotrait (HTMT), as Hair et al. (2010) suggested. Firstly, this research assesses the discriminant validity by assessing the Fornel Larcker criterion by comparing the correlations among the latent constructs with square roots

Table 1: Instrument's reliability

S/N	Variable	Code	Cronbach Alpha	Numbers of items
1	Customer Value	CV	0.848	10
2	Customer Knowledge	CK	0.814	10
3	Customer Attraction	CA	0.920	10
4	Customer Orientation	CO	0.905	10
5	Customer Engagement	C E	0.847	10
6	Customer Involvement	C I	0.906	10
7	Customer Commitment	CC	0.838	10
8	Service Quality	SQ	0.774	10

Table 2: Loadings, composite reliability, and average variance extracted

Variable	Items	Items Loadings	C R	AVE	Discriminant Validity
CA	ca10	0.879	0.888	0.502	YES
	ca2	0.582			
	ca3	0.715			
	ca4	0.594			
	ca5	0.739			
	ca6	0.798			
	ca7	0.654			
	ca9	0.657			
CE	ce2	0.649	0.894	0.517	YES
	ce3	0.634			
	ce4	0.676			
	ce5	0.736			
	ce6	0.738			
	ce7	0.661			
	ce8	0.898			
	ce9	0.724			
CI	ci1	0.863	0.95	0.682	YES
	ci2	0.904			
	ci3	0.917			
	ci5	0.831			
	ci6	0.8			
	ci7	0.799			
	ci8	0.682			
	ci9	0.789			
CK	ck3	0.61	0.847	0.531	YES
	ck5	0.649			
	ck6	0.833			
	ck7	0.637			
	ck9	0.871			
CO	co1	0.601	0.897	0.523	YES
	co10	0.624			
	co2	0.796			
	co3	0.783			
	co5	0.738			
	co6	0.814			
	co7	0.747			
	co8	0.648			
CV	cv10	0.739	0.859	0.505	YES
	cv1	0.633			
	cv5	0.671			
	cv6	0.753			
	cv8	0.714			
	cv9	0.746			
CC	cc1	0.74	0.914	0.517	YES
	cc10	0.792			
	cc2	0.636			
	cc3	0.791			
	cc4	0.82			
	cc5	0.627			
	cc6	0.64			
	cc7	0.693			
	cc8	0.722			
	cc9	0.697			
SQ	sq10	0.497	0.882	0.52	YES
	sq2	0.709			
	sq3	0.753			
	sq4	0.845			
	sq7	0.732			
	sq8	0.737			
	sq9	0.729			

N/B: CR: Composite reliability, AVE: Average variance extracted

of average variance extracted (Memon and Rahman, 2014), as shown in Table 3.

Henseler et al., (2015) propose the Heterotrait-Monotrait (HTMT) ratio as a superior method for assessing discriminant validity over Fornell and Larcker's approach. The latter lacks theoretical justification despite strong item correlations with their constructs and weaker correlations with others. Additionally, Henseler et al. (2015) argue it provides no statistical evidence to rule out correlations between theoretically unrelated constructs.

HTMT values below 0.90 indicate discriminant validity (Henseler et al., 2015), though Kline (2011) suggests a stricter threshold of 0.85. Gold et al. (2001) accept values up to 0.90. Table 4 presents the HTMT correlation values.

Cross-loadings is employed in this research to determine the constructs' discriminant validity. Under this approach, the items' loadings must be the highest under their respective construct compared to other constructs. Therefore, Table 4 presents the cross-loadings generated by the PLSSEM algorithm. Each construct's items have higher loadings under their respective construct in this table compared to other constructs. The higher loadings are, therefore, bolded, and coloured.

3.5. Structural Model Assessment

The structural model assessment follows the evaluation of the measurement model (Henseler et al., 2016). This study adheres to the guidelines of Hair et al. (2017) and Ramayah et al. (2018), using a five-step process: Assessment of collinearity, Evaluation of path coefficient significance (final hypothesis testing results), Assessment of R-squared (R^2) Evaluation of effect size (f^2), Assessment of predictive relevance (Q^2).

To achieve these objectives, the study applied a bootstrapping procedure with 5,000 resamples to determine the significance of

Table 3: Fornel larcker criterion

Construct	CA	CE	CI	CK	CO	CV	OC	SQ
CA	0.709							
CE	0.577	0.719						
CI	0.527	0.703	0.826					
CK	0.529	0.587	0.691	0.728				
CO	0.59	0.832	0.621	0.508	0.723			
CV	0.049	0.641	0.648	0.518	0.625	0.711		
CC	0.654	0.709	0.687	0.55	0.711	0.697	0.719	
SQ	0.637	0.323	0.63	0.34	0.458	0.682	0.217	0.721

N/B: SQ: Service quality

Table 4: HTMT correlation matrix

	CA	CE	CI	CK	CO	CV	OC
CE	0.663						
CI	0.583	0.77					
CK	0.599	0.683	0.779				
CO	0.68	0.251	0.311	0.828			
CV	0.622	0.753	0.725	0.618	0.741		
CC	0.743	0.787	0.756	0.651	0.798	0.802	

loadings and path coefficients (Hair et al., 2014). The significance level for hypothesis testing was set at the default 0.05 (Hair et al., 2010). This section focuses on testing both direct and moderating effects within the structural model. The structural modelling is presented in Figure 3.

3.6. Testing of Hypothesis

Table 5 below presents the direct relationship between the variables.

Hypothesis One (H_1): This hypothesis posits a significant relationship between Customer Attraction (CA) and Service Quality (SQ). Structural Equation Modelling (SEM) results confirm this relationship ($\beta = 0.082$, t-value = 2.925, $P < 0.05$), though the relationship is negative. Despite this, H_1 is accepted.

Hypothesis Two (H_2): The second hypothesis suggests a significant relationship between Customer Engagement (CE) and SQ. Data analysis supports this claim ($\beta = 0.201$, t-value = 4.809, $P < 0.05$), confirming H_2.

Hypothesis Three (H_3): This hypothesis examines the relationship between Customer Involvement (CI) and SQ. Findings indicate a significant but negative relationship ($\beta = -0.401$, t-value = 10.265, $P < 0.05$). Despite the negative direction, H_3 is accepted.

Hypothesis Four (H_4): The fourth hypothesis asserts a significant relationship between Customer Knowledge (CK) and SQ. PLS-SEM analysis confirms this ($\beta = 0.378$, t-value = 14.295, $P < 0.05$), leading to H_4's acceptance.

Figure 3: Structural model assessment

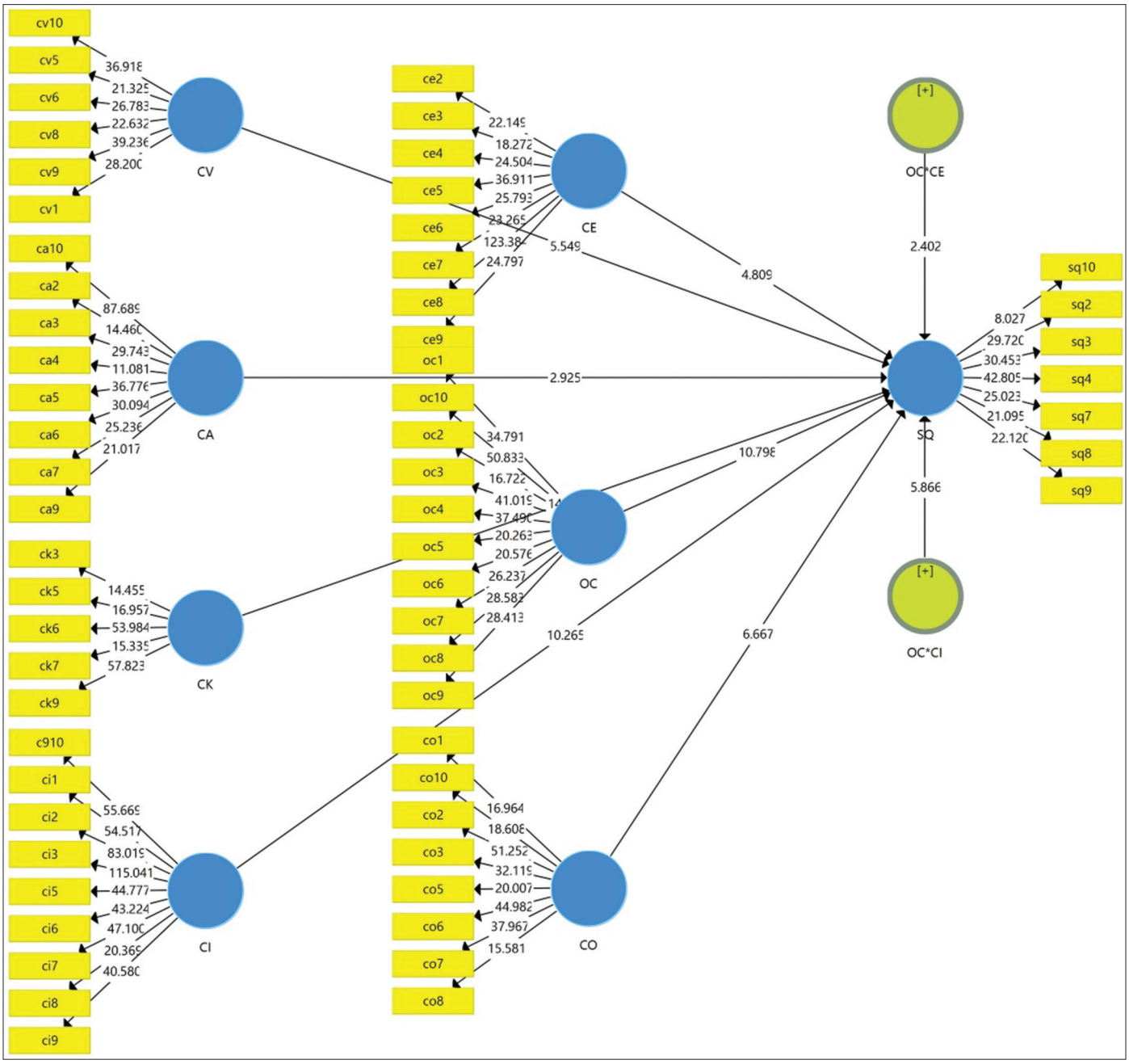


Table 5: Direct relationships

Hypothesis	Relationship	β	STD	T Stat	P-values
H_1	CA->SQ	−0.082	0.028	2.925	0.003
H_2	CE->SQ	0.201	0.042	4.809	0
H_3	CI -> SQ	−0.401	0.039	10.265	0
H_4	CK->SQ	0.378	0.026	14.295	0
H_5	CO->SQ	0.352	0.053	6.667	0
H_6	CV->SQ	0.239	0.043	5.549	0
H_7	CC->SQ	0.394	0.037	10.798	0

Table 6: Structural model assessment (moderating effect)

Hypothesis	Relationship	β	STD	T Stat	P-values
H_8	CC*CE->SQ	0.048	0.02	2.402	0.016
H_9	CC*CI->SQ	−0.102	0.017	5.866	0

Hypothesis Five (H_5): This hypothesis proposes a significant relationship between Customer Orientation (CO) and SQ. Data analysis supports this ($\beta = 0.352$, t-value = 6.667, $P < 0.05$), validating H_5.

Hypothesis Six (H_6): The sixth hypothesis suggests a substantial link between Customer Value (CV) and SQ. PLS-SEM results confirm this relationship ($\beta = 0.239$, t-value = 5.549, $P < 0.05$), leading to the acceptance of H_6.

Hypothesis Seven (H_7): The final hypothesis posits a significant relationship between Customer Commitment (CC) and SQ. PLS-SEM analysis supports this claim ($\beta = 0.394$, t-value = 10.798, $P < 0.05$), confirming H_7.

The researcher investigates the moderating role of OC on the relationship between CE and CI on SQ, which is clearly presented in Table 6 above.

This leads to hypotheses eight (8) and nine (9).

Hypothesis Eight (H_8): This hypothesis proposes that CustomerCommitment (CC) significantly moderates the relationship between Customer Engagement (CE) and Service Quality (SQ). PLS-SEM analysis confirms this moderating effect ($\beta = 0.048$, t-value = 2.402, $P < 0.05$), leading to the acceptance of H_8.

Hypothesis Nine (H_9): This hypothesis suggests that CC significantly moderates the relationship between Customer Involvement (CI) and SQ. Findings from PLS-SEM analysis validate this effect ($\beta = -0.102$, t-value = 5.866, $P < 0.05$), confirming H_9.

4. DISCUSSION AND FINDINGS

Existing literature on Customer Relationship Management (CRM) often examines its impact on service quality in isolation rather than as interconnected constructs (Tseng and Wu, 2014). This limits a comprehensive understanding of their collective influence.

This study addresses this gap by investigating CRM dimensions—Customer Involvement, Engagement, Attraction, Value, Knowledge, and Orientation—using Expectancy Disconfirmation Theory (EDT) and Customer Engagement Theory (CET) as guiding frameworks. EDT explains how CRM dimensions shape customer expectations and perceptions of service quality. Banks establish expectations through personalized services, marketing, and communication. During service interactions, Customer Involvement and Engagement shape perceptions, leading to either confirmation, positive disconfirmation (exceeding expectations), or negative disconfirmation (falling short). Post-service, Customer Value and Service Quality reflect the outcome, reinforcing how CRM strategies influence satisfaction.

Most CRM studies focus on employees, overlooking the customer perspective, which is crucial for understanding service quality enhancement (Farrell et al., 2001; Wachner et al., 2009). This study fills that gap by applying CET to explore active customer participation. CET conceptualizes engagement as cognitive, emotional, and behavioral, emphasizing ongoing interaction and value co-creation (Brodie et al., 2011). Cognitive engagement aligns with Customer Knowledge and Orientation, shaping service expectations. Behavioral engagement, linked to Involvement and Attraction, enhances service quality through participation in feedback and co-creation. Emotional engagement, tied to Value and Orientation, fosters loyalty and trust, strengthening perceptions of service quality (Vivek et al., 2014).

Prior research highlights weak links between Customer Involvement and Service Quality (Wang et al., 2007; Anning-Dorson, 2018) and negative relationships between Customer Engagement and Service Quality (Dhasan and Aryupong, 2019). To address this, the study introduces customer commitment as a moderating variable, leveraging Trust and Commitment Theory. This theory posits that strong relationships stem from trust and commitment, enhancing engagement's impact on service quality. By incorporating this perspective, the study provides deeper insights into strengthening CRM's role in service quality improvement.

4.1. Managerial Implication

This research provides actionable insights for enhancing service quality through CRM dimensions—customer involvement, knowledge, value, orientation, engagement, attraction—and the moderating role of customer commitment to drive sustainable customer satisfaction.

Findings indicate that excessive customer involvement can strain resources and slow processes, negatively impacting service quality. Managers should carefully manage participation levels to avoid inefficiencies. Similarly, customer attraction negatively affects service quality when overemphasized, leading to resource misallocation and neglect of existing customers. Organizations should balance acquisition and retention by allocating dedicated teams and budgets.

In contrast, customer engagement positively influences service quality, as engaged customers provide feedback, advocate for the brand, and co-create services. Managers should foster active customer participation to enhance satisfaction. The strong link

between customer knowledge and service quality highlights the importance of educating customers through webinars, tutorials, and FAQs to align expectations and improve service delivery.

The positive impact of customer value underscores the need for organizations to prioritize value creation, communication, and delivery. Aligning offerings with customer expectations and leveraging technology for personalization can transform customer value into a competitive advantage. Similarly, customer orientation enhances service quality by tailoring services to individual needs. CRM systems should be used to analyze customer data and create personalized experiences, such as customized service plans.

Finally, customer commitment plays a key moderating role in strengthening the relationship between involvement, engagement, and service quality. Managers should develop tailored engagement strategies, segment customers by commitment levels, and optimize service processes using technology for personalized interactions.

5. CONCLUSION

This study was conducted among commercial bank customers in Nigeria, which may limit generalizability. While the small sample size helped control extraneous variables, replicating the study in other industries would enhance applicability and allow meaningful comparisons. Expanding research across various sectors would further validate these findings.

Additionally, unlike previous studies that focused on bank employees, this research examined customer perspectives on service quality. Future studies could conduct a comparative analysis of both employees and customers to provide deeper insights into service quality enhancement.

A key limitation of this study is its cross-sectional design, as all data were collected at a single point in time. Given that financial industry performance unfolds over time, a longitudinal study would provide more robust insights and better establish causal relationships. However, time and budget constraints prevented its use in this research. Future studies should consider longitudinal designs for a more comprehensive understanding of service quality improvements.

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