
Mobile Banking Service Quality, Customer Perceived Value and Customer Retention in the Kenyan Banking Industry

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Abstract

Covid-19 brought unprecedented global business disruptions and the business operational landscape has shifted drastically in recent months. This era is also characterized by high levels of competition and assertive customers who make stay or switch decisions guided by their quality and value perceptions. Evidence on effects of mobile banking service quality, customer perceived value and customer retention constructs in a single framework is limited. The study fills the gap. Specifically, this study examines the effect of mobile banking service quality and customer-perceived value on customer retention. It examines the mediating effect of customer perceived value on the relationship between mobile banking service quality and customer retention. The study is guided by the 'leaky bucket theory' of marketing and the MS-QUAL model. An explanatory research design was adopted, employing multistage sampling technique in collecting data from a sample of 400 consumers of mobile banking services drawn from universities in Nairobi County using a self-administered questionnaire. Data was analyzed and hypotheses tested using hierarchical and multiple regression models using Hayes Process macro. The study established that: mobile banking service quality ($\beta = 0.565$, $p = 0.000$), perceived customer value ($\beta = 0.363$, $p = 0.000$), significantly affect customer retention. Additionally, the results show that customer perceived value mediates the relationship between mobile banking service quality and customer retention ($\beta = .193$, $CI = .127, .266$). This study concludes that, customers will remain committed to patronize a bank whose services are of high quality and with a high value. The study contributes to knowledge by revealing customer perceived value mediates the relationship between mobile banking service quality and customer retention. Policy makers should proactively respond to sudden disruptions by developing quality assurance policies and devising value-centered strategies that enhances customer retention rates.

Keywords: Mobile Banking, Service Quality, Perceived Value, Customer Retention, Kenya

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INTRODUCTION

Customer retention is a critical element of any banking strategy in today's increasingly disruptive and competitive environment. Top-performing banking institutions today believe that customers are the purpose of what they do and that they very much depend on them; customers are not the source of a problem, and hence they should never make a wish that customers "should go away" because if they

do, their future and security will put in jeopardy (Kiki & Ogutu, 2021). As technology becomes the order of the day and new development in the economy creates new opportunities which are hard to assume, many organizations are looking for ways on how to embrace technology as way of survival.

Mobile banking services can be used to raise efficiency and boost business growth through cheap, efficient and reliable money

service support systems that reduce the need for cash transaction and the risks associated (Rahman *et al.*, 2017). Since the inception of M-banking, Kenyan banking sector has witnessed tremendous changes. Customers now have access to fast, efficient and convenient banking services. Most of the Kenyan banks are now investing large sums on money in mobile banking technology.

However, while the rapid development of mobile banking technology has made some banking tasks more efficient and cheaper, technological advancements have their fair share of problems that may compromise the quality of service such as restructuring challenges, customer reluctance and cost challenges, system failure, network vulnerabilities, software defects and operating mistakes, processing error and data loss due to virus among others. If unchecked, these challenges poses threatens the whole idea behind mobile banking service technology (Manali, 2014). It is therefore important to initiate a discourse on whether mobile banking service quality matters in influencing customer retention in the Kenyan banking industry. Empirically, studies have proven that a two percent increase in customer retention improves the profit in the same proportion as a ten percent reduction in cost does (Ahmad & Buttle, 2002). It has also been established that higher retention rates lead to higher net present value of customers (Ahmad & Buttle, 2002). Sweeney and Soutar (2001) avers that in the services industry, the best way to retain customers is to improve customer service quality and consequently, customer satisfaction. In their study, Ahmad and Buttle, (2002) established that customer retention is influenced by service quality and customer relationships. They also reveal that lack of trust plays a major role in customer defections followed by general product features (Ahmad & Buttle, 2002). Unfortunately, although many banking institutions are aware of the need for retaining customers, the firms spent most of their resources only in attracting new customers into the businesses and invest little on retaining them (Reichheld, 2003). The

relationship between mobile banking service quality and customer retention has been tested (MoyoTalok, 2013; Surendra, 2015; Tamuliene & Gabryte, 2014), customer perceived value and customer retention has also been tested (Tena *et al.*, 2006; Cronin *et al.*, 2000a; Evans, 2002).

There seems to be lack of published research testing the mediating effects of customer perceived value on the relationship between mobile service quality and customer retention. Therefore, this study seeks to examine the relationship between mobile banking service quality and customer retention and how perceived customer value mediates the relationship between mobile banking service quality and customer retention among the Kenya's tier one banks.

THEORETICAL AND LITERATURE REVIEW

The Leaky Bucket Theory of Marketing:

The leaky bucket theory is the model that seeks to describe the process of customer gain and loss, otherwise known as customer churn. The theory was coined by (Ehrenberg, 1988) to describe the fact that most companies operate on a 'leaky bucket' basis, seeking to refill the bucket with new customers while ignoring the ones leaking away through the bottom of the bucket. The theory uses a bucket that has several holes in the base and its walls. A hose is put into the bucket and it is filled with water. Some of the water will run out the holes. In the analogy, water going into the bucket represents new customers being acquired and the water flowing out of the bucket represents customers lost to the firm. The amount of water in the bucket represents the total customer base of the firm at that time. Andrew Ehrenberg coined the phrase 'leaky bucket' to describe a syndrome where most companies concentrate on recruiting new customers to replace customers who move on, rather than seeking to retain customers, in effect, firms are putting customers into a leaky bucket, and instead of preventing them from leaking away through the bottom of the bucket, the firm keeps topping up the bucket with new customers.

MS-QUAL Model: The MS-QUAL model is an extension of SERVQUAL model by Parasuraman *et al.*, (1985). Its development was necessitated by the limitation of the original model in dealing with service quality. MS-QUAL model also known as multidimensional measurement model for accessing the quality of service. MS-QUAL was designed by (Surendra, 2015), as a scale for measuring service quality offered to mobile banking customers. According to Surendra (2015), customers form their service quality perceptions based on their evaluations of five primary dimensions including: 1). Efficiency: This is the ease and speed of accessing and using the mobile banking service. 2). Fulfillment: This is the extent to which the mobile banking service' promises about service delivery are fulfilled. 3). Availability: This describes the correct technical functioning of the mobile banking service platforms. 4). Privacy: This is the degree to which the banks' mobile service platforms are safe and protect customer information. 5). Responsiveness: This is the effective handling of problems through the banks' mobile service platforms.

Mediating role of customer perceived value: Customer perceived value has been studied as a consequence of service quality as well as the antecedent of customer retention in multiple past investigations. Zeitham (1988) was among the first researchers who established that service quality has a positive effect on perceived value. Later, Groth and Dye (1999), argued that customers perceive value originates from both the service act itself and the quality of the service act. Hapsari *et al.*, (2016) established a positive and significant relationship between service quality and perceived value. Past studies have also established that customer perceived value

is a trigger of customer retention. Parasuraman & Grewal (2000) established that perceived value is the most important predictor of repeat purchase intention. Extant literature also indicate that perceived value is a common construct between the quality of service and customer retention (Chen & Zhu, 2012; Hanaysha, 2018; Keshavarz & Jamshidi, 2018). The mediating role of perceived value for the relationship between service quality and customer retention is summed up by the argument by Hapsari *et al.*, (2016) that consumer perceptions of the inherent characteristics of banking service quality can help to reinforce favourable brand associations that eventually lead to long-lasting customer commitment towards a firm's banking services.

Study Objectives: The purpose of this study was to examine the effect of mobile banking service quality and customer perceived value on customer retention. Specific objectives were to examine the effect of; mobile banking service quality on customer retention and customer perceived value perceived on customer retention, the mediating effect of customer perceived value on the relationship between mobile banking service quality and customer retention. Figure 1 illustrates the conceptual model of the study. Based on the literature review. This study proposes the following hypotheses:

H₀₁: Mobile banking service quality has a significant effect on customer retention

H₀₂: Customer perceived value has a significant effect on customer retention

H₀₃: Customer perceived value mediates the relationship between mobile banking service quality and customer retention.

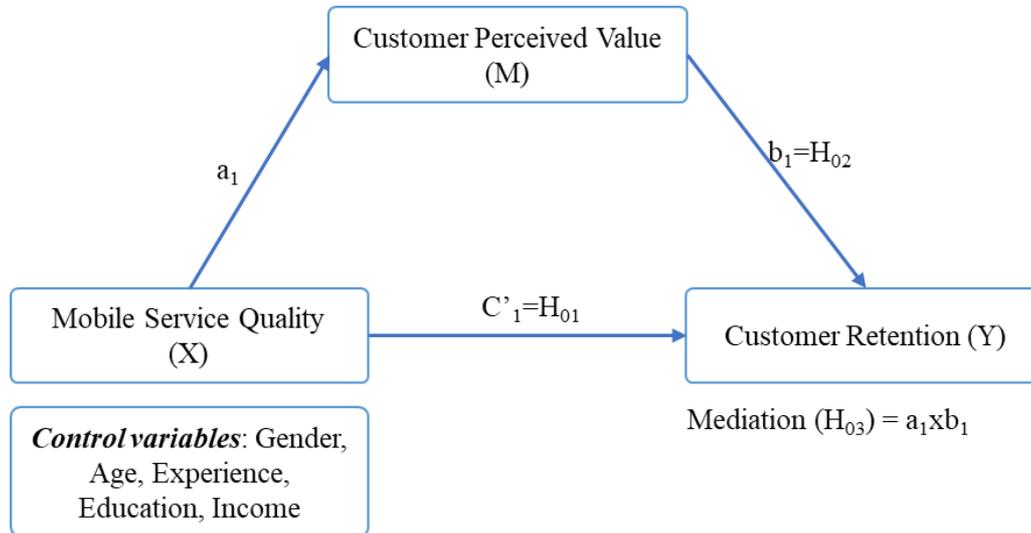


Figure 1: Conceptual Framework. Source: Hayes (2018) Model 1

METHODOLOGY

Design and participants: An explanatory research design was adopted in collecting data from consumers of mobile banking services, drawn from two public and two private universities in the Republic of Kenya. The reason behind the selection of university staff is that these staff are mostly the target market of the mobile banking services and are more vigilant towards the changes in the banking sector (Ahmed *et al.*, 2010). Data was collected from a sample size of 400 respondents randomly selected from a target population of 3958 using a self-administered, closed-ended questionnaire between June 4th and 21st 2019. A multistage sampling technique was employed in this study. The first stage was the choice of study location, Nairobi County was purposively chosen based the fact that it is Kenya's capital city and most of the banks' headquarters are domiciled in the county and the fact that a greater number of public and private universities (23 out of 46) are located in Nairobi county (uniRankTM, 2020). The second stage was choice of the universities to draw respondents from. The study adopted of central location survey which is worldwide trend in marketing research where most personal interviews are conducted at a central location (that is in a market or shopping centre), or in the streets (France and the

Netherlands), or at home, or at work ruttet Kingdom and Switzerland (Abu Bakar, 2015). This method has previously been used in the Kenyan context by (Chepkwony *et al.*, 2012).

The Universities were clustered into two; public and private, where four (4) universities were randomly selected; two (2) from public universities and two (2) from private universities based on the list of Commission for University Education Accredited Universities - November 2017. Third stage was the choice of a university staff who formed the study's unit of analysis. Systematic sampling was then be employed which will allow every K^{th} element in the population to be sampled, beginning with a random start of the element in the range of 1 to K. Then finally, the respondents' consent was sought to participate in the study before administering the questionnaire. Findings indicate a response rate of 81%, which is above the acceptable thresh-hold of 50% as recommended by most researchers. The results indicate that male respondents were more than the female, (54%) and (46%) respectfully, while majority of the respondents were of ages between 26 and 35 years (N=143) accounting for 43.9% of the respondents while those above 66 years were the minority (N=12) accounting for 3.7% of the respondents. In terms of service

experience, the results reveal that respondents with between 5-10 years of mobile banking service experience were the majority (39.0%) the least being those with below 1 year of mobile banking service experience (5.8%). The demographic statistics further indicate the majority of the respondents (46.3%) had acquired an undergraduate degree, while a minority (3.7%) of the customers were Ph.D. holders. Additionally, the findings also revealed that most of the respondents had monthly income ranging from (Khs. 10,000 - Khs.50, 999) accounting for 36.8% of the total respondents, while those whose monthly income was less Than Khs. 9,999 were a minority accounted for 5.5% of the total respondents.

Measures

Customer Retention: Customer retention, refer to the propensity of a mobile banking service customer to stay with his/her bank for the foreseeable future. The variable had three items adapted from (Siu *et al.*, 2013). Each question was assessed on a five-point Likert-type scale with anchors "1=strongly disagree" and "5=strongly agree". The three questions in the questionnaire are; I intent will re-patronize my bank's mobile banking services for the foreseeable future, I would recommend my bank's mobile banking services to my relatives and friends, and I intent to increase the usage of the various mobile banking services offered by my bank.

Mobile Banking Service Quality: This variable was measured using seventeen items adapted from (Surendra, 2015) with modifications to suit the study. The questions were assessed on a five-point Likert-type scale with anchors "1=strongly disagree" and "5=strongly agree". The seventeen questions were; My bank's Mobile banking system is always available for use, My bank's Mobile banking system operates smoothly and without delays, My bank's Mobile banking system does not crash, Mobile banking related problems are quickly resolved by the

bank, I obtain accurate and error free service from my bank's mobile banking services, I feel safe using my bank's mobile banking services, Risk associated with my bank's mobile banking services is low, Personal information exchanged over mobile banking services is not misused by my bank, I feel secure in providing sensitive information during mobile banking transactions, My bank's Mobile banking services are prompt hence, it takes shorter waiting time, My bank's Mobile banking services are prompt hence, it takes shorter waiting time, My bank's mobile banking Services saves my time.

Customer Perceived Value: Customer perceived value was measured using five items adapted from (Yang & Peterson, 2004). The five items include continuous innovations to mobile banking service makes me feel good, I get good value from the mobile banking services for a reasonable price, I don't mind sacrificing time and efforts to access and use mobile banking services, compared with other bank services such ATM, it is wise to choose this mobile banking services and, I believe that mobile banking services are designed with customer's best interests at heart. All the questions were assessed on a five-point Likert-type scale with anchors "1=strongly disagree" and "5=strongly agree".

Covariates: The study controlled for gender, age, experience, education level and income of the customer to eliminate their adverse influence on mobile banking service quality, customer perceived value and customer retention. Gender was measured as either 'Male' or 'Female', age was measured as '18-25 years', '26-35years', '36-45 years', '46-55 years', '56-65 years' and 'above 66 years, customer experience was measured based on the duration of being a customer as 'below 1 year', '1-5years', '5-10 years' and 'above 10 years' and education level was measured at 'Primary Certificate', 'Secondary Certificate', 'Diploma holder', 'Undergraduate degree', 'Master's Degree'

and 'PhD holder' and income level was measured as 'less than Kshs. 9,999', 'Kshs. 10,000- Kshs.50, 000' 'Kshs. 51,000- Kshs.99, 999' and 'above Kshs. 100,000'.

STATISTICAL ANALYSIS

Data analysis process involved identifying analytical tools, using different tests based on the study goals. Data was checked, recorded, and cleaned. Completed questionnaires were further checked for missing values and inconsistencies in responses given by the respondents. Simple frequency runs were made to screen the data to identify missing values. Descriptive statistics for the variables of interest were first calculated, this was followed by correlation analysis to determine the associations among these variables. Finally, to examine the mediation effect, the four-step procedure proposed by (MacKinnon *et al.*, 2012) was adopted.

Model Specification: The following statistical models were used in testing the hypotheses in this study.

- i. $Y = \beta_0 + \beta_1 \text{ gender} + \beta_2 \text{ age} + \beta_3 \text{ education level} + \beta_4 \text{ experience} + \beta_5 \text{ income} + \epsilon$ (Testing the effect of the control variables on the dependent variable)
- ii. $Y = C_0 + C + C_1 X + \epsilon$ (H_{01}) (Testing the effect of the independent variable on the dependent variable while holding constant the control)
- iii. $Y = b_0 + C + C_1 X + b_1 M + \epsilon$ (H_{02}) (Testing the effect of the Mediating variable on the dependent variable while holding constant the controls and independent variable)
- iv. Testing for mediation (H_{03}) = $a_1 \times b_1$ or C (total effect) – C' (direct effect)

RESULTS

The study aimed to ascertain whether; mobile banking service quality have significant

effect on customer retention, customer perceived value significantly affected customer retention and to explore the mediating effect of customer perceived value on the relationship between mobile banking service quality and customer retention.

Descriptive Statistics: Running descriptive statistics enables the researcher establish whether the statistical means were good fit of the observed data. Correlation analysis was carried to establish the strength and direction to which two variables move together. The study sought to establish the views of the respondents regarding mobile banking service quality, customer perceived value and customer retention. The responses from the respondents were subjected to a 5-point Likert scale where a scale of 5 means strong agreement and 1 means strong disagreement with the statement. The responses were summarized in the analysis to give the mean, standard deviation and the skewness and kurtosis measures. A score of more than 4.44 described respondents to be in agreement with the statement while a score of less than 3.58 indicated a disagreement with the statement. Table 1 displays the means, standard deviations, reliability, and correlation results for all research variables. The results show that customer retention had the highest mean of 4.016 with a standard deviation of .610. In contrast, mobile banking service quality had the lowest mean of 3.860 and a standard deviation of 0.592. Additionally, reliability had a Cronbach's Alpha above .7 for all variables in the accepted range. Results of correlation shows that all variables were positively associated with customer retention with mobile banking service quality having the highest relationship with $r = .569$, $p < .01$, while customer perceived value had $r = .536$, $p < .01$.

Table 1: Means, standard deviations, reliability, and correlation results

Name of Variable	Mean	SD	Reliability	Correlation 1	2
Customer Retention	4.016	0.610	0.762	-	
Mobile Service Quality	3.860	0.592	0.714	.569**	-
Customer Perceived Value	3.974	0.642	0.701	.559**	.536**

** Correlation is significant at $p < .01$ (2-tailed)

RESULTS

This study used hierarchical regression method. It is considered most suitable for this study because of its ability to statistically control for additional variables while observing the changes in the Model for every variable added.

In Model 1, control variables were introduced and regressed against the dependent variable. The independent variables were added in Model 2, while the interaction terms were introduced simultaneously in Model 3. The regression results are presented in Table 2.

Results of Control Variables: Model 1 contains results from regression analysis incorporating control variables only. Surprisingly, the results the results as shown in Table 1 shows that all the covariates were insignificant in this model, Gender ($\beta = .003, p = 0.974$); Age ($\beta = 0.036, p = 0.505$), Experience ($\beta = -0.035, p = 0.577$), Education ($\beta = 0.045, p = 0.487$) and income ($\beta = -0.065, p = 0.355$). The results contrasts with previous findings which found customer gender, age, service experience, education level and income are important determinants in access and adoption of mobile banking services leading to stay/switch decisions.

Testing for Direct effects: The hypothesis developed from the review of literature implied that direct relationship between mobile banking service quality and customer retention as well as customer perceived value and customer retention. The

results from Table 2 (Model 2) generated an F-value of 145.663 at $p < .01$. The p-value of less than 0.01 indicated that the model is fit. The results are consistent with the accepted fit levels ((Hair et al., 2010).

The Influence of Mobile Service Quality on Customer Retention: Hypothesis H_{01} postulated that mobile banking service quality has a significant effect on customer retention. The study revealed a positive and significant relationship between mobile banking service quality and customer retention ($\beta = .565, p < .01$). Thus, hypothesis H_{01} was supported.

The positive and significant findings suggest that high quality mobile banking services greatly influence a customer’s propensity to stay with the bank while poor quality service would inform the customers switch decision.

The Influence of Customer Perceived Value on Customer Retention: Hypothesis H_{02} stated a significant effect of customer perceived value on customer retention. The study results as shown in Table 2 (Model 3) revealed a positive and significant relationship between customer perceived value on customer retention ($\beta = .363, p < .01$). Thus, hypothesis H_{02} was supported. The results demonstrate that superior customer value delivery plays a pivotal role in influencing customer stay or churn decision. This is true because consumer’s overall assessment of value has both the costs and the benefits of staying with a company.

Table 2: Hierarchical Regression Results for Controls, Hypothesis H01 and H02

Variable	Model 1		Model 2		Model 3	
	B	<i>p</i> - <i>v</i>	B	<i>p</i> - <i>v</i>	β	<i>p</i> - <i>v</i>
Constant	.215	.537	.002	.996	.024	.929
Gender	-.001	.993	.003	.974	-.018	.842
Age	.036	.585	.036	.505	.018	.720
Experience	.001	.984	-.035	.577	-.030	.600
Education	-.066	.393	.045	.487	.058	.338
Income	-.014	.867	-.065	.355	-.069	.290
MSQ			.565***	.000	.372***	.000
CustPerVal	-	-	-	-	.363***	.000
R ²	.004		.317		.411	
Δ R ²	.004		.313		.094	
F	.276		145.663***		50.440***	

Testing for Mediating Effect customer perceived value on the relationship between mobile banking service quality and customer retention

The study introduced a mediating variable in order to test whether its presence either strengthens or weakens the relationship between the independent variable and the dependent variable (Aiken et al., 1991). Testing for the possible effects of third variable is important because it explains the real-life situations where variables interact in more complex ways. Therefore, the study assessed whether customer perceived value mediates the relationship between mobile banking services and customer retention.

In pursuit of the above, hypothesis H₀₃ was formulated; the overall model Table 2 (Model 3) generated an improved R² of 0.411, with change in R² of 0.094, F = 50.440, p = 0.000. This shows that holding constant control variables and mobile service quality constant, the mediator variable, customer perceived value explains 9.4% of the total variation in customer retention.

Hypothesis H₀₃ predicted that customer perceived value mediates the relationship between mobile banking service quality and customer retention. The findings indicated a positive and significant mediating effect of customer perceived value mediates the

relationship between mobile banking service quality and customer retention ($\beta=.363$, $p<.01$). Thus, hypothesis H₀₃ was supported. The results, therefore, indicate that banks that high quality mobile banking services as well as delivering superior value relative to the offerings of competitors are likely to retain their customers.

DISCUSSION

The purpose of this study was to establish the effect of mobile banking service quality, customer perceived value on customer retention. Additionally, the study examined the mediating effect of customer perceived value on the relationship between mobile banking service quality and customer retention. The hypothesis that mobile banking service quality has a significant effect customer retention was supported. These results infer that indeed, mobile banking service quality has a positive and significant effect on customer retention. These findings are supported by literature on service quality indicate that the greater the quality perceived, the stronger the relationship commitment and repurchase intentions (Srivastava and Sharma 2013). Furthermore, Surendra,(2015), established that mobile banking service quality is one of the critical success factors that influence bank's competitiveness. The

findings are also supported by earlier findings by Ranaweera and Neely (2003), who established that there was a positive association between perceived service quality and customer repurchasing or retention. We, therefore, argue in this study, that the customers consider the quality of the mobile banking services when evaluating the service provider in order to make a decision on whether to continue using the service or not. Hence, the higher the service quality, the higher the retention rates and to the contrary, the lower the quality of the mobile banking services, the higher the defection rates or customer churn. The study findings also reveal a positive and significant effect of customer perceived value on customer retention.

These findings support previous research in customer relationship management which links customer perceived value and customer retention. For instance, Milan *et al.*, (2015) established that clients in the corporate market are more willing to keep relationships with existing suppliers if they are being attended to with elevated value. The findings are also supported by the ideas of Carlos *et al.*, (2006), who suggested that a relationship journey between a bank and its customer where both parties hope to obtain certain advantages and benefits (value) through the working and developing of the relationship, the advantages that the service provider obtains from the relationship are linked to the loyalty of the customer.

We argue in this study that customers engage in a matching process in establishing value for their money. Hence, where services match or exceed the customers' perceived value expectation, they are influenced to make repeat purchases. The study findings further reveal that corporate positive and significant effect of customer perceived value on customer retention. Moreover, the findings of this study confirm that customer perceived value mediates the link between mobile service quality and customer retention. We argues in this study that, when a bank offers superior quality of mobile banking services, it

improve the customer perceived value and which will in turn influence patronage of the m-banking services. This shows how critical it is for the mobile banking service providers to offer their customers with the right information and quality m-banking services via m-banking channels since this contributes to high perceived value in the mind of their clients which influences their decisions no whether to stay with or switch from the m-banking services.

CONCLUSION

The purpose of this study was threefold. First, the study examined the effect of mobile banking service on customer retention. Secondly, the study examined the effect of effect of customer perceived value on customer retention and thirdly, the study analyzed the mediating effect of customer perceived value on the relationship between mobile banking service and customer retention. The findings of this study concludes that mobile banking service quality and customer perceived value are the powerful drives of customer retention. Additionally, the study reveals that customer's perception of the banks' service quality influences their attitudes towards the bank and how they make their commitment to patronize the mobile banking services consistently in the future. The implication of this is that the customer decisions to commit to stay with the bank is partly depend on their perceptions towards the quality of the banks' mobile banking services and the customer's perceived value, hence the variables used in this study plays a critical role in the customer's decision making the process. The study recommends that in order for the banking institutions to anticipate, prepare for, respond to and adopt to sudden disruptions, the bank management and policy makers should; develop quality assurance policies and devise value-centered strategies that enhances customer retention rates.

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