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MOBILE BANKING, CUSTOMERS' LOYALTY, RETENTION, AND SATISFACTION IN NIGERIA: STUDY CASE OF THE NIGERIAN BANKING SECTOR

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ABSTRACT

The research investigated how mobile banking adoption by Nigerian banks has aided the banks' customer satisfaction and retention. The study made use of five deposit money banks in Nigeria namely Guaranty Trust Bank (GTB), Zenith Bank PLC, United Bank of Africa PLC (UBA), First Bank of Nigeria PLC, and Access Bank PLC, all located in Ota, Ogun state. A total of 150 questionnaires were administered and 100 responses were received. It also analyzed and interpreted results obtained from the field using the Analysis of Variance (ANOVA) regression analysis. Findings revealed that mobile banking had a positive and significant impact on customer satisfaction, customer retention, and customer loyalty. The study therefore recommended amongst others that Bank managers should also improve other factors that contribute to good mobile banking platforms, for example, fast internet access and USSD codes, in order to improve the performance of mobile banking and attract customers.

INTRODUCTION

The word "mobile" evolved from the old Latin term 'Movere', which means 'to move'. Nevertheless, the term mobile is of French origin and was commonly used in the 18th century. Bank as a word originated from the Italian word 'Banco,' which can be translated as a 'long bench,' since Jewish bankers sat on them when conducting banking operations such as currency exchange and loan services. According to Akin, Ikpefan, & Isibor (2019), banking history evolved from the prototype banks in Assyria plus Sumeria around 2000 BC, where grain loans were made available to farmers by merchants to be transported to urban societies. Following the act, cash lenders in sanctuaries made allowances for individuals who demanded advances. The financial system began to change as time went by; banking growth spread from northern Italy and throughout Roman Empire, synonymous with medieval and Renaissance Italy, which also spread in the 15th and 16th centuries to northern Europe. In 19th century, the banking system spread to Nigeria and started in the period 1892 with African banking Corporation which was now changed to Bank of British West Africa (BBWA) in 1893 and ultimately First Bank of Nigeria Plc in 1894 (Onay, Ozsoz, & Ash, 2018).

The first Nigerian bank was the Industrial and Commercial Bank founded in 1929 but liquidated in 1930. The British and French Bank was established in 1948 and changed to the United Bank for Africa. However, these banks only served the colonial masters and not the Nigerian citizens. Dr Nnamdi Azikwe then founded the African Continental bank to cater for the Nigerian needs and ward off the discrimination from the foreign banks. Many other Nigerian banks were founded like the Agbonmagbe Bank (Onay, Ozsoz, & Ash, 2018). Development in technology caused significant changes in the operations of banks throughout the 20th century and enabled banks to increase dramatically in size and geographic distribution. Technology and globalization also gave rise to the beginning of mobile banking, resulting in the general growth of banks. Before the usage of mobile bank service in 1999, mobile banking was mainly by SMS. A few banks embraced the service and introduced it to their customers, but not many showed interest in it because it was very hard to monitor their financial data on their cell phones, the service was discontinued by the banks but overtime, banks have used electronic telecommunication services for their service delivery (Olotewo, 2018). The first Automated Teller Machine (ATM) was built in 1967 and e-banking began that same period (Etim, 2000). Smart cards that may be in the form of a debit or credit card, intranets and internet

banking, transfer of money, POS (Point of Sale), as well as an electronic mode of payment or an electronic payment system, are the core of the ATM concept. Other mobile banking services offered (under e-banking) include checking the balance of the account, transfers, payment system, receipt of credit and debit notifications, as well as Virtual Top Up services (VTU). These would be used as variables for the purpose of this research work. In light of this, banks are approaching IT to improve their service quality and improve customer satisfaction (Etim, 2000). There is no question that banks' adoption of the electronic payment system is a factor of different factors other than the competitive advantage, which is the most common factor for banks. Some of the other factors that have contributed to the use of electronic payment systems (mobile banking) by banks or financial institutions are: lowering infrastructure costs, reducing operating and processing costs, and increasing online commerce. As already established, the use of electronic payment methods in the banking industry has become a need to most banks in Nigeria to remain competitive. The financial institution recently is dynamic and has experienced rapid changes due to technology changes. The banking environment is highly competitive with changing economic atmosphere making ICT bring about effectiveness of mobile banking because of the augmented capability. This study therefore was carried out to understand how effective electronic payment is on bank customer satisfaction and retain such customers in Nigeria.

Statement of Research Problem: Banks adopted various online bank platforms like Short Message Service, and so on to simplify banking activities for customers, speed up banking, reduce crowds in banking halls, and allow customers to perform transactions from their homes' comfort. Modern bank customers prefer using the online platforms to carry out their banking activities. Hence, most banks have embraced the mobile platforms to satisfy their customers (Isibor, Omankhanlen, Okoye, Achugamonu, Adebayo, Afolabi, & Ayodeji, (2018). Also, the recent cashless policy boosted electronic operations to lower physical cash transactions in Nigeria. As bank customers look for security of their funds and adequate investment returns, more Nigerians have adopted mobile banking style because of the convenience and time-saving ability, but there have been major downside of the system. Part of the glitches includes crashes that may arise due to a fault within the bank's application design during transfers or payment, which causes the banks to lose money or ironically slow down the transactions. It is further stated that another problem encountered by mobile banking users is fraud. The vulnerability of the services today has given room to society's deplorable element to intrude, track, and hack the accounts of many customers and steal out their money beyond one's imagination. Despite the daily measures taken by the CBN, the menace of fraud through mobile banking services or technology remains robust, leading to a lack of customers' confidence and trust in the system (Olorunsegun, 2019). In 2017, an approximated ₦16 billion was lost by banks to fraud and 60% of the fraud was done online (Isibor, Omankhanlen, Okoye, Achugamonu, Adebayo, Afolabi, & Ayodeji, (2018). Again, there is a lack of multi-factor authentication to prevent or minimize imposters stealing people's phones or tampering with them. Another problem also identified is the inability of individuals living in rural areas to access and understand this system, making them unable to perform banking activities efficiently. Also, some banks' mobile banking applications are not compatible with some devices, which make it difficult for some individuals to carry out transactions. This study therefore was, carried out to understand how effective electronic payment was on bank customer satisfaction.

Mobile Banking: The introduction of internet banking had a noteworthy effect on bank service delivery. Internet banking helped give the customers access to their banks at any time from the solace of their homes and workplaces (Siam & Zakaria, 2019). However, the greatest confinement of internet banking is the pre-requisite of a PC with an internet connection. Mobile banking addresses this principal restriction of internet banking, as it decreases the customer's necessity to only a mobile phone. Mobile banking was, on the other hand, more accepted than internet banking and ATM services, while ATM services had a broader scope.

The cost and maintenance involved were consumer education, poverty, and the availability of infrastructure. Mobile banking relates to the provision and availability of mobile telecommunication systems for banking and financial services. Mobile banking transactions primarily rely on the functionality of the mobile banking app provided and usually include accessing account balances and lists of recent transactions, electronic bill payments, digital check deposits, P2P payments, and transfers of funds between the accounts of a customer or another. Some applications often allow the copying and sometimes printing of copies of statements at the customer's premises (Tan & Teo, 2000). Using a mobile banking app improves ease of use, speed, accessibility and also improves security by incorporating mobile device security frameworks with the user. The idea of internet banking scores over mobile banking is that it promotes 'Anywhere Banking'.

Mobile Banking Types

SMS Banking: SMS banking is the earliest mobile banking service offered. It is performing banking transactions over SMS. Banks also use this medium to send notifications to their customers. An SMS can be sending a text or dialling a format of code known as USSD code to execute a service transaction. According to Olorunsegun (2019), USSD means unstructured supplementary service data. Research shows that USSD is mainly used for SMS banking than sending text and it is also more expensive. Web browser banking is carrying out banking transactions over the internet. It gives full access to the account, unlike SMS banking.

Website Browsers: This done carried out on the bank's website from the customer's mobile phone. Although, the customer may not be given bank charges for using the platform, he would be charged for data usage by his network provider.

Smart-Phone Application: Smart-phone application banking is making bank transactions using the bank's mobile application that has been installed on a mobile device. It performs actions faster than the website because data is already stored locally on the mobile device, unlike a website that uses a web server.

Mobile Banking Tools

Internet: This represents a worldwide system of linked computer networks that use internet protocol to serve billions of users all over the world.

Mobile phone: This represents a device utilized to make and receive calls over a radio network and can be carried about.

Unstructured Supplementary Service Data (USSD): According to Olorunsegun (2019), USSD is a kind of banking that allows customers to carry out bank transactions by inputting a shortcode on a mobile phone. It does not require the use of the internet/web. In Nigeria, USSD codes can be used to carry out banking transactions like topping up airtime, the opening of bank accounts, money transfer to other various bank accounts, payment of utility bills, etc. For the USSD to be functional, customers' account is linked to their mobile phone number, it is easy and convenient as one does not have to go to the banking hall for the registration of the code because it is done with a phone as long as the customer has a BVN and it has been linked with such customers' bank account. The procedure of utilization of the USSD service varies depending on the various banks, after dialling the code for a particular bank, a list of options will appear on the phone screen for done banks from that list the transaction which the customer needs to carry out is then chosen and other instructions are followed.

Automated Teller Machine: There are two kinds of automated teller machines. The first is the basic one which enables the customers to withdraw money only and get a report of their account balance. The second kind is a more composite machine that receives deposits, offers a credit card payment facility, and provides a report of

information on accounts. ATM is an electronic device that is utilized by just bank customers to process transactions related to accounts. The operators of ATMs get access to their accounts through an uncommon sort of plastic card which is encoded with user information on a magnetic strip.

Point of sale (POS): POS systems are comprised of hardware and software designed to facilitate and process card payments for products and services purchased at retail locations. Depending on the business, a POS terminal can include a credit card reader, PIN pad, barcode scanner, and receipt printer. The software works behind the scenes to manage orders, track inventory, and process card payments. The fees associated with the hardware and software is typically broken out as separate items. POS is also a form of mobile banking.

Security in Mobile Banking: Mobile banking is a revolutionary and simpler way for users to conduct transactions, and it is expected to grow in usage as the number of mobile phone users grows, therefore, Mobile money has to be secure and banks have to do this by.

Authentication: This is creating a two-layer security system where a key in the form of a password to gain access to the mobile money application and then a PIN to complete the transaction (Taylor & Todd, 2017). Data network adds an extra layer of protection such that anyone trying to hack a banking app directly from a customers' phone would have to go through two levels of security (phone password and banking app password and pin), rather than just one.

OTP (One-time password): When the amount to be withdrawn is bigger than a certain limit, a one-time password is sent to the customer's mobile or email address for another layer of confirmation. OTPs are utilized to fight online fraud and are demanded by customers every time they are about to carry out transactions using the online or mobile banking interface (Cohen, 2017).

Biometrics: It is used to identify a person's physical nature, since each person has only one personal identity, it is impossible to clone, share, or forget. Many consumers would consider mobile banking if biometrics are available for security purposes. Security is the main issue for mobile banking and via a safe connection between the bank and the customer's mobile phone, trust can be established. The new system fails to properly identify the registered recipient. Customers who use mobile banking can feel insecure if their phone gets lost.

Customer Satisfaction: Satisfaction refers to a person's general attitude toward a service supplier. Since customer satisfaction drives business performance, understanding the level of customer satisfaction is critical for an organization and its leadership. The meaning of this relationship highlights the fact that potential success is influenced by consumer loyalty, that is, the relationship between customer satisfaction and performance is considered long-term from a time perspective (Olokoyo, Isibor, Adegboye, Adesina, Osuma, & Adebayo, 2020). Furthermore, the need to know the degree of customer satisfaction is much greater if higher customer satisfaction contributes to higher results. Since customer satisfaction is a major element in firm's competitiveness and also this satisfaction strongly impacts firm's competitiveness and increased customer satisfaction causes increased competitiveness. Consumer satisfaction can be considered a critical component of any organization because it gives a tool to advertisers and business leaders that can be used from a customer viewpoint to assess and maximize business success. Not only is it a leading predictor of customer satisfaction and repurchase plans, but it is also a perfect way to consider when they will become repeat clients or even supporters in the long run. On the other hand, the initial warning signals that a customer is dissatisfied and possibly at risk of leaving may also be issued (Olokoyo, Isibor, Adegboye, Adesina, Osuma, & Adebayo, 2020). With all this considered, customer satisfaction can provide businesses with crucial information to understand what aspects are successful and where improvements need to be made. Customer satisfaction plays a vital role within almost any business. It acts as a key differentiator that enables you to attract new customers in competitive business markets. Not only is it

a leading indicator used to measure customer loyalty and retention, but it also enables businesses to identify unhappy customers, reduce customer losses and negative word of the mouth whilst increasing revenue. Keeping your current customers is much less expensive than finding new ones.

Technology Acceptance Model (TAM) Theoretical Framework: TAM model deals with different views contradicting with genuine usage prescribes that when users are offered a technology, two significant factors influence their choice regarding how and when they will utilize it. The factors include perceived usefulness (PU) which was defined by Davis (1989) as the degree to which an individual believed that utilizing a specific system would improve his or her job performance and perceived ease-of-use (PEoU) explained by Davis (1989) as the level to which an individual accepts that utilizing a specific system would give them a chance to be free from exertion. The TAM was proposed by David in 1989, the TRA by Fishbein and Ajzen in 1975, and the extension of the TRA to the TPB by Ajzen in 1991. Tam concentrates on enlightening the state of mind behind that proposition to utilize a particular technology or service. For example, Rogers (1995) used TAM to explain those elements influencing user acceptance for wireless internet via mobile devices. In various ways, it corresponds to a rational or utilitarian hypothesis about media choice and use. The end-point where people use technology is the actual system. This theory is vital to the research as it shows user's acceptance of information technology and usage in an organizational context. Acceptance is the principal process in innovation utilization and has a bipolar implication. First of all, acceptance is a forerunner to adoption and subsequently, this theory complements the previous theories. Secondly, acceptance dictates the attitude and opinions of the users which inevitably affects the effectiveness of utilization and subsequently the performance. Strategic adoption as well as operational efficiency and productivity of systems aid a capacity for acceptance of the innovation. It will be consequently possible to conclude that without acceptance, the rest of the theories would be redundant and invalid. Despite acceptance being the beginning phase, it is additionally a disposition moulding feature that impacts adoption and effectiveness of use.

Empirical Framework: This includes research studies written by a variety of researchers, as well as their subjects, goals, data sources, data collection methods, conclusions, and other pertinent information.

Empirical framework in Nigeria: Isibor, Omankhanlen, Okoye, Achugamonu, Adebayo, Afolabi, & Ayodeji, (2018) carried out research on e-banking in Nigeria and found out that e-banking play a big role in economic growth through customers' satisfaction. Olorunsegun (2019) investigated the impact of e-payment on Nigerian customer service delivery. The objective was to meet the demands of the customers. The study used primary data via a questionnaire that was randomly distributed to 100 customers of Unity Bank PLC in Nigeria. The researcher discovered that electronic payments have a huge effect on the services provided by Nigeria's banking industry, thereby improving customer service delivery. Olotewo (2018) studied the effect of mobile banking service delivery on Nigerian banks. The study utilized questionnaires were distributed. The findings and hypothesis tests revealed that mobile banking increases bank service delivery in terms of transactional convenience, time savings, fast transaction alerts, and cost savings, allowing customers to save a significant amount of time in the banking process. To improve customers' satisfaction, the researcher suggested that knowledge be generated to educate the public about the benefits derived from the e-banking service product and that professional manpower, as well as technical wizards, be employed by every bank to prevent fraudulent persons and hackers from manipulating the bank's data and stealing from customers. Etim (2000) examined the effect of automated teller machines (e-banking) on the performance of Nigerian banks. In the study, it was discovered that automated teller machine contributes to the banking sector's effectiveness. The study likewise found that automated teller machine kindles growth of the banking industry conveyed in the number of customers utilizing the ATMs. The amount of transactions for each ATM remained a

noteworthy measure of the proficiency of these ATMs. The study used the frequency distribution and chi-square to evaluate the data collected and inspected the pattern of response to each variable under investigation. Akin, Ikpefan, & Isibor (2019) researched into the link between credit and mobile banking adoption in Nigeria using multiple regression technique. The result of their research showed a positive and significant link between both variables.

Empirical framework in other countries: Marenzi, Hichman, & Dehler (2017) embarked on research titled customers' adoption of banking channels in Hong Kong to investigate the factors that influenced customers' adoption of internet banking, branch banking, ATM, and telephone banking. They found the adoption of e-banking channels to be profitable to both the banks and customers alike. McFarland, D. & Hamilton, D. (2017) researched on the factor influencing the adoption of internet banking. They found out that the income and educational level, trust, security, perceived usefulness, and ease of use are the major elements that influence the adoption of internet banking. Data was gotten by the 384 questionnaires administered to the customers of the bank and was analysed using descriptive and inferential analysis. They found TAM to be appropriate for e-banking acceptance. Karahanna, Straub, & Chervany (2019) researched the study of mobile banking usage. They had the purpose to explore the barriers, usability, and effect of efficacy and perceived image on customers' attitude towards the use of mobile banking and found out that the main factor affecting users' attitude was system compatibility.

Model Specification: Three models were adopted and modified from the studies of Gerrard & Cunningham (2018). The implicit forms of each model were:

Model 1
    CS = f (MB)
Model 2
    CR = f (MB)
Model 3
    CL = f (MB)
Where
    CS = Customers' satisfaction
    CR = Customer Retention
    CL = Customer Loyalty
    MB = Mobile Banking

The explicit mode forms are:
Model 1
    $CS = \beta_0 + \beta_1 MB + \varepsilon_t$
Model 2
    $CR = \beta_0 + \beta_1 MB + \varepsilon_t$
Model 3
    $CL = \beta_0 + \beta_1 MB + \varepsilon_t$
With
    β_0 being the constant
    β_1 being coefficients explaining the independent variable MB (Mobile Banking) for the three models
    ε_t = Error term

The research utilized primary data gotten from questionnaire that would be administered to 150 customers of Guaranty Trust Bank (GTB), Zenith Bank PLC, United Bank of Africa PLC (UBA), First Bank of Nigeria PLC, and Access Bank PLC, all located in Ota, Ogun state. The ANOVA regression was used to analyze the gathered primary data.

Reliability Test: The study used the Cronbach Alpha to investigate how reliable the various elements of technology were. The Cronbach's Alpha shows whether the contents in the questionnaire were interrelated. Mahrani & Soewarno (2018) opined that the Alpha must be from 0.7 upwards to show that the research instrument is highly reliability. From table 4.1, the study's research instrument was reliable and better as the Cronbach's alpha was 0.7.

Table 4.1. Reliability Test Result

Cronbach's Alpha	N of Items
.742	20

Data Presentation: 30 questionnaires were shared each for customers of the five banks, making it 150 questionnaires that were distributed. However, 100 questionnaires were returned out of the distributed one, meaning 50 questionnaires were not recovered by the researcher (10 for each banks). The data obtained from the responders would be used to test the hypotheses formulated in the introductory part of this project. In addition, the findings were presented in tables with their interpretations in percentage.

Table 4.2. Number of Responders

Questionnaire	Responders	Valid percentage
Returned	100	67
Not returned	50	33
Total	150	100

Source: Field Survey (June, 2021)

Table 4.2 revealed that 67% of the research questionnaires distributed were retrieved and 33% were not retrieved. This indicated that a reasonable conclusion can be drawn from the retrieved responses.

Analysis of Number of Responders

Table 4.3. Gender of Responders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	56	56.0	56.0	56.0
	Female	44	44.0	44.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (June, 2021)

From the table 4.3 above, the gender of the responders was revealed. 56 (56%) of the responders were male and 44 (44%) were female. This means there were more male responders than female responders.

Table 4.4. Age of Responders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-25	65	65.0	65.0	65.0
	26-35	15	15.0	15.0	80.0
	36-45	11	11.0	11.0	91.0
	46-55	4	4.0	4.0	95.0
	55-Above	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

From the table 4.4, 65% of the responders were in age group of 16-25, 15% were between 26 and 35, 11% fell between 36-45, 4% were ages of 46-55 and 5% fell between the ages of 56 and above. This showed that majority of the responders were of age 16 to 25 years which represents a youthful age where the use of technology is high

Table 4.5. Education of Responders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	WASSCE	17	17.0	17.0	17.0
	OND/HND	40	40.0	40.0	57.0
	B.SC/B.A	32	32.0	32.0	89.0
	MASTERS	3	3.0	3.0	92.0
	DOCTORATE	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.5 revealed that 17% of the responders had WASSCE, 40% of the responders had either OND/HND, 32% of the responders had B.Sc. /B.A, 3% of the responders had Masters and 8% have Doctorate

degree. Therefore, majority of the customers had OND/HND educational qualification. The table 4.6 showed that from the total responders, 67% was single, 29% were married and 4% were divorced. Therefore, majority of the responders were single people. The Table 4.7 revealed that from the complete number of responders, 52% were students and 48% were workers. This showed that there were many student responders than worker/employed responders. From the table above, 70% of the responders have been customers of their banks between the ranges of 1-5 years, 24% of the responders were customers between the ranges of 6-10 years, 4% of the responders between the ranges of 11-15 years and 2% between the ranges of 16 years and above. Therefore, majority of the responders had been customers with their various banks for 1-5 years period.

The table above show that 4% of the responders strongly disagreed, 39% agreed, and 4% strongly agreed that their banks act promptly in delivering mobile banking services. Hence, the majority of the responders agree that their banks act promptly in delivering mobile banking services. From table 4.12, 3% of the responders strongly disagreed while 46% which is the majority of the responders agreed to the notion that says that their bank's mobile service unit workers have high level of competence, that is, they are skillful, knowledgeable, and are courteous when dealing with customers. From table 4.13, 3% of the responders strongly disagreed, 33% disagreed, 15% were undecided, 41% agreed and 8% strongly disagreed that the bank customer service of their bank are able to solve any problem that may occur confidently and accurately without

Table 4.6. Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SINGLE	67	67.0	67.0	67.0
	MARRIED	29	29.0	29.0	96.0
	DIVORCED	4	4.0	4.0	100.0
	WIDOWED/WIDOWER	-	-	-	
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.7. Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STUDENT	52	52.0	52.0	52.0
	WORKER	48	48.0	48.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.8. How long have you been customer with your bank?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	70	70.0	70.0	70.0
	6-10	24	24.0	24.0	94.0
	11-15	4	4.0	4.0	98.0
	16-ABOVE	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.9. The image of the bank made you patronize your bank

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY DISAGREE	3	3.0	3.0	3.0
	DISAGREE	17	17.0	17.0	20.0
	UNDECIDED	9	9.0	9.0	29.0
	AGREE	62	62.0	62.0	91.0
	STRONGLY AGREE	9	9.0	9.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4. 10. The bank deliver standard quality mobile banking services over time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY DISAGREE	1	1.0	1.0	1.0
	DISAGREE	11	11.0	11.0	12.0
	UNDECIDED	17	17.0	17.0	29.0
	AGREE	64	64.0	64.0	93.0
	STRONGLY AGREE	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

From the above table 4.9, 3% of the responders strongly disagreed, 17% of the responders disagreed, 9% were undecided, 62% agreed and 9% strongly agreed that the image of the bank makes them to patronize them. Hence, the majority of the responders agreed that the image of their various banks made them patronize the banks. Table 4.10 revealed that 1% of the responders strongly disagreed while 64% agreed to the notion that their banks deliver standard quality mobile banking services over time. Hence, majority of the responders agreed and believed that their banks deliver standard quality mobile banking services over time.

confusion. Therefore, majority of the responders believed that the bank customer services of their various banks are able to solve any problem that may occur confidently and accurately without confusion. The table above shows that 37% of the responders said yes, 48% said and 15% were undecided that the bank process or processes are long. Hence, majority of the responders believed that the banks' processes are not but fast and quick long when complaints are made concerning mobile banking failures. The table 4.15 above showed that 31% of the responders said yes, 53% said no and 17% were undecided that information are not sufficient enough.

Table 4.11. The bank acts promptly in delivering mobile banking services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY DISAGREE	4	4.0	4.0	4.0
	DISAGREE	25	25.0	25.0	29.0
	UNDECIDED	28	28.0	28.0	57.0
	AGREE	39	39.0	39.0	96.0
	STRONGLY AGREE	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.12. The bank's mobile service unit workers have high level of competence, that is, they are skillful, knowledgeable, and are courteous when dealing with customers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY DISAGREE	3	3.0	3.0	3.0
	DISAGREE	14	14.0	14.0	17.0
	UNDECIDED	26	26.0	26.0	43.0
	AGREE	46	46.0	46.0	89.0
	STRONGLY AGREE	11	11.0	11.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.13. The bank customer service are able to solve any mobile banking problem that may occur confidently and accurately without confusion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY DISAGREE	3	3.0	3.0	3.0
	DISAGREE	33	33.0	33.0	36.0
	UNDEICED	15	15.0	15.0	51.0
	AGREE	41	41.0	41.0	92.0
	STRONGLY AGREE	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.14. The banks' processes are long when complaints are made concerning mobile banking failures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	37	37.0	37.0	37.0
	NO	48	48.0	48.0	85.0
	UNDECIDED	15	15.0	15.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Table 4.15. Information from the mobile banking customer services are not sufficient for customers to understand

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	31	31.0	31.0	31.0
	NO	52	52.0	52.0	83.0
	UNDECIDED	17	17.0	17.0	100.0
	Total	100	100.0	100.0	

Source: Field Survey (July, 2021)

Hence, majority of the responders believed that information from the mobile banking customer services are very sufficient for customers to understand

Test of Hypotheses

Hypothesis One

H_0: Mobile banking does not boost bank customer satisfaction

The Analysis of Variance (ANOVA) regression was used to test the first hypothesis and also examine the significant relationship between the dependent variable (bank customers' satisfaction) and the independent variables (mobile banking). Table 4.21 indicated the model summary of the linear regression equation. The "R column" represents the correlation between the observed independent variable and the predicted independent variable. The R-squared is the square of residuals and is also known as the coefficient of determination. It states the proportion of the variation in the dependent variable that can be attributed to the independent variable(s). From the findings, 52% of the variations in bank customers' satisfaction were explained by mobile banking, the remaining 48% was explained by others factors. The adjusted R-squared refers to the best estimate of R square for the population from which the sample was drawn after adjusting for degree of freedom. From the result in table 4.21, the adjusted R-square was 48%. Finally, the "standard error of estimate" indicated that, on average, observed dependent variable deviated from the predicted regression line by a score of 0. 71952. The F-statistics in table 4.22 was used to examine the effect of the entire model and also to check the joint significance of the independent variable. Its value of 7.149 showed that the independent variable jointly and significantly impacts the dependent variable. Examining the coefficient table in table 4.23, it was discovered that both the constant and mobile banking were significant at 5 per cent level of significance with value of .017 to prove that the independent variable (mobile banking) have a significant impact on the dependent variable (bank customers' satisfaction). Also the unstandardized coefficients values of mobile banking (1.329) carry a positive sign to show that the significance is a positive one. Therefore, the null hypothesis is rejected and it is accepted that mobile banking does positively and significantly boost bank customers' satisfaction.

Table 4.21. ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.981	5	.196	.940	.039[a]
	Residual	19.609	94	.209		
	Total	20.590	99			
Source: SPSS Output (July, 2021)						

Table 4.22. ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	29.453	5	5.891	7.149	.000[a]
	Residual	59.787	94	.636		
	Total	89.240	99			

Source: SPSS Output (July, 2021)

Table 4.23. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.182	.448		2.639	.010
	Mobile banking	1.329	.537		2.574	.017

Dependent Variable: Customer satisfaction
Source: SPSS Output (July, 2021).

Table 4.24. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.218[a]	.480	.413	.45674

Table 4.25. ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.981	5	.196	.940	.039[a]
	Residual	19.609	94	.209		
	Total	20.590	99			
Source: SPSS Output (July, 2021)						

Table 4.26. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.500	.279		5.378	.000
	Mobile banking	1.005	.079	.006	1.060	.042

Dependent Variable: Customer Retention
SPSS Output: (May 2021)

Hypothesis 2

H₀: Mobile banking does not have an effect on bank customer retention

Multiple regression was used to test the how the dependent variable in customer retention could be explained by the independent variable in mobile banking. From the result gotten from the SPSS, R^2 for the model was .48 or 48% from table 4.24. After adjusting for degree of freedom, the adjusted R-squared was 41 or 41%.

The F statistics of 0.940 in table 4.25 showed that the independent variable has a joint significance in having an effect on the dependent variable.

The statistical significance of the independent variable (mobile banking) in the coefficient table 4.26 was .042 and means that the model as a whole was significant at 5 per cent level of significance.

Decision: The outcome of the multiple regression (R^2 = 48, F test = .940, P value (sig.) = .042)

Therefore, based on the P value (sig.) of the independent variable which was .042, mobile banking positively and significantly impacts customer retention

Hypothesis 3

H₀: Mobile banking does not impact customer loyalty

Multiple regression was used to test the how the dependent variable in customer loyalty could be explained by the independent variable in mobile banking. From the result gotten from the SPSS, R^2 for the model was .52 or 52% in table 4.27. After adjusting for degree of freedom, the adjusted R-squared became 49%. From table 4.28, the F statistic of 7.364 showed that the independent variable was jointly significant in impacting the dependent variable.

The statistical significance of the independent variable (mobile banking) in the coefficient table 4.29 was .039 and means that the model as a whole was significant at 5 per cent level of significance.

Decision: The outcome of the multiple regression (R^2 = 52, F test = 7.364, P value (sig.) = .039)

Therefore, based on the P value (sig.) of the independent variable which was .039, mobile banking positively and significantly impacts customer loyalty.

We reject the null hypothesis. This simply means that mobile banking does positively and significantly impact customer loyalty.

Table 4.27. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.663[a]	.520	.490	.78026

Source: SPSS Output (July, 2021)

Table 4.28. ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.440	5	4.729	7.364	.032[a]
	Residual	59.677	94	.645		
	Total	88.117	99			

Source: SPSS Output (July, 2021)

Table 4.29. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.058	.477		2.702	.025
	customer service delivery	1.330	.529		2.580	.039

Source: SPSS Output (July, 2021)
Dependent Variable: CL $R^2 = 52.0$, F test= 7.364, P value (sig.)= .0039

DISCUSSION OF FINDINGS

The decision was to reject or accept the null hypothesis based on the ANOVA regression analysis carried out to validate the accuracy of the result. For the hypothesis one, the null hypothesis was accepted that mobile banking have a positive and significant impact on customer satisfaction, based on the findings. This means that a successful mobile banking platform is a necessity to boost customer satisfaction by banks. Hence, banks must examine their mobile banking platforms by ensuring that the platforms are functional every time and also reduce the failure rates of the mobile banking platforms. Customer satisfaction help boost profitability and increases liquidity of banks, and one way customers are satisfied is when they are not disappointed when they want to use their bank's mobile banking platforms for fast and quick transactions. Furthermore, the regression analyses for hypothesis two showed that the null hypothesis should be rejected and it was therefore accepted that mobile banking positively and significantly have an effect on customer retention. The positive significance means that it is a vital factor. Customer retention is key to banks in order to secure and increase their deposit base. Retained customers add to profitability and liquidity of banks, are loyal, and carry out banking businesses with the bank no matter the situation. Banks need to retain customers for their banking products and deposit increase. One way banks can retain customers is through mobile banking as seen in the ANOVA regression result. Finally, for hypothesis three, the regression analyses showed that the null hypothesis should also be rejected. Hence, mobile banking also positively and significantly have an effect on customer loyalty. Banks need loyal customers as they stay with the bank and carry out banking business no matter what happens to the bank. Loyal customers maintain account with banks for a long time, they do not move to other banks but stay with their banks, and they do not maintain dormant account with their banks. Banks can use mobile banking platforms to drive customer loyalty.

Recommendations

- Bank managers should invest more on mobile banking platform in order to enjoy the benefits and have long-standing customers. This they can do by apportioning a high ratio of their equity funds to mobile banking platforms.
- There should organized seminars and trainings for bank employees on mobile banking in order to show them the importance of mobile banking and achieving stated objectives of high level of customers with the mobile banking platforms.
- Bank managers should establish more mobile banking platforms at cheaper costs in order to use it to attract and retain customers.

- Bank managers should also improve other factors that contribute to good mobile banking platforms, for example, fast internet access and USSD codes, in order to improve the performance of mobile banking and attract customers.
- Bank managers should have a clear framework and structure on mobile banking as this would help them manage the mobile banking platform successfully.
- Bank managers should ensure that frequent evaluation of mobile banking applications be done and measured against performance so as to maximize its full benefits.

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