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HOW ELECTRONIC BANKING HAS CHANGED THE FINANCIAL PERFORMANCE OF NIGERIAN DEPOSITS MONEY BANKS

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Abstract: This study investigates the impact of electronic banking on the financial performance of Deposits Money Banks in Nigeria. The study employs a descriptive analysis using secondary data from reports and publications, and statistical package for the social sciences to analyze data. The results show that electronic banking has a positive influence on the financial performance of Nigeria's commercial banks. Mobile, internet banking, and the use of ATM cards significantly contribute to the financial performance of Nigeria's Deposits Money Banks. The study recommends that Nigerian commercial banks increase their efforts towards adopting e-banking to automate their service delivery to customers. Furthermore, industry policymakers and regulators must acknowledge electronic banking as a major input when crafting guidelines to regulate the industry.

Keywords: Electronics Banking, Financial Performance, Mobile Banking, Internet Banking, ATM Cards.

Introduction

In recent years, electronic banking has been highly appreciated in the banking sector service provision, especially in online banking services. Developing countries like Nigeria have witnessed an immense transformation in their banking system, with the introduction of electronic banking, online transactions, mobile banking, and Automated Teller Machines (ATMs). The rapid growth in e-banking services by commercial banks in Nigeria is due to its operational efficiency, cost advantage, and convenience. The implementation of e-banking has brought a new dimension and paradigm shift in the banking sector. This study aims to examine the effect of e-banking on the financial performance of Nigerian commercial banks. The study relies on a descriptive analysis using secondary data from reports and publications. The data was analyzed using the statistical package for the social sciences. The study examines the relationship between mobile banking, internet banking, and the use of ATM cards on the financial performance of Deposits Money Banks in Nigeria.

The study findings reveal that e-banking significantly contributes to the financial performance of Nigeria's commercial banks, as measured by the return on assets. E-banking, which comprises mobile banking, internet banking, and the use of ATM cards, has become a crucial component of the Nigerian banking sector. The study recommends that Nigerian commercial banks and policymakers increase their efforts towards adopting

ebanking to automate their service delivery to customers. Furthermore, industry regulators must consider ebanking as a major input when crafting guidelines to regulate the industry.

In conclusion, the study provides insights into the impact of electronic banking on the financial performance of Nigeria's commercial banks. The study contributes to the existing literature on e-banking and provides practical implications for the Nigerian banking industry. The findings of the study provide evidence for policymakers and commercial banks to pay more attention to electronic banking as a crucial component of their operations.

2. LITERATURE REVIEW

2.1 Banking Sector in Nigeria

Banking Industry in Nigeria started during the colonial era with the establishment of Colonial Banks with the primary aim of meeting the commercial needs of the Colonial Government. Banking system in Nigeria is regulated through the Central Bank of Nigeria. This apex bank started operation on July 1, 1959.

In 1892, African Banking Corporation and British West Africa, now First Bank of Nigeria, were established in Nigeria. In 1925, Anglo-Egyptian Bank and National Bank of South Africa gave birth to Barclays Bank in Nigeria. In 1948, the British and French Bank for Commerce and Industry started operations in Nigeria, which metamorphosed into the United Bank for Africa. The first domestic bank In Nigeria was established in 1929 and called Industrial and Commercial Bank. The bank liquidated in 1930 and was replaced by Mercantile Bank in 1931. The African Continental Bank was created in 1949 as the only sustainable indigenous bank after the liquidation of the Industrial and Commercial bank. The year 1947, shows the emergence of an agricultural bank called the Nigerian Farmers and Commercial Bank.The Central Bank of Nigeria (CBN) is the Central bank and apex monetary authority of Nigeria established by the CBN Act of 1958 and commenced operations on July 1, 1959.

Central Bank of Nigeria (CBN) is the major regulatory objectives of the bank as stated in the CBN Act are to: maintain the external reserves of the country, promote monetary stability and a sound financial environment, and to act as a banker of last resort and financial adviser to the federal government. The central bank's role as lender of last resort and adviser to the federal government has sometimes pushed it into murky regulatory waters. After the end of imperial rule, the desire of the government to become pro-active in the development of the economy became visible especially after the end of the Nigerian civil war, the bank followed the government's desire and took a determined effort to supplement any short falls in credit allocations to the real sector. The bank soon became involved in lending directly to consumers, contravening its original intention to work through commercial banks in activities involving consumer lending. However, the policy was an offspring of the indigenization policy at the time. Nevertheless, the government through the central bank has been actively involved in building the nation's money and equity centers, forming securities regulatory board and introducing treasury instruments into the capital market.

2.2 E-banking

Emerging information technology tremendously affects the growth and flexibility in the user friendliness of electronic banking (Nadim & Begum, 2008). In recent times electronic banking has been highly appreciated in the banking sector service provision, and especially in online banking services. Foreign as well as local banks are adopting online banking system to enhance their services. They have adopted superior technology through automated transaction systems for attracting clients and offering inter-branch and inter-bank networking.

Nadim and Begum (2008) observe that these systems seem neglected by the customers, in spite of rigorous efforts by the banks. It is perceived that in e-banking customer impression is quite vital for successful ebanking service delivery. The banking sector has tried to collect more information to discern factors that endear customers to online banking (Gerrard & Cunningham, 2003; Sathye, 1999). Various authors have proposed different models on customer online banking adoption. These models comprise of technology acceptance model that has its origin from theory of reasoned action, which has become the most widely used, and the theory of planned behaviour.

2.3 Technology Acceptance Model

This model is at times referred to as Technology Acceptance Theory (TAT) it addresses the adoption behaviour of customers which is usually assessed by the aim to use a specified system which is predicated on the impression of its usefulness and the convenient usability of the system. Previous authors researched on the fundamental construct of TAMs validity in forecasting the acceptance of individual's and noted that TAMs fundamental construct does not wholly address the explicit effect of technology and the usability factors that actually influence the user's acceptance (Moon & Kim, 2001). Davis, 1989 contents that expected usefulness is usually termed as an individual belief to improve the degree job performance by the application of modern technology of information system. Perceived effortlessness of use shows how easy an individual learns the operations of the emerging technology and information system. The model emphasizes the positive impact of perceived simplicity of use on the impression of the system's usefulness (Gefen, Karahanna, & Straub, 2003). Pikkarainen, Karjaluoto & Pahnila (2004) carried out a survey in Finland to establish the actual impact of perceived usefulness and concluded that it endeared use of inventive, autonomous, self-service and user friendly technologies provided by banks for access of financial services to the users in the twenty first century. Gerrard and Cunningham (2003) noted that the perceived usefulness rested on the services provided by the bank. These services range from paying utility bills, checking account balances, loan applications, money transfer abroad, and getting pertinent mutual funds information.

In conclusion, the likelihood of the adoption of e-banking is dependent on its perceived usefulness (Potaloglu & Ekin, 2001). The major drivers of e-banking acceptance are viewed as the TAM variables which include the aspects of perceived ease of use and perceived usefulness.

2.4 Empirical Studies

2.4.1 International Research Studies

Several research studies have been carried out on the performance of banks that have embraced the use of ebanking platform. The main reason is that the profitability of banks utilizing e-banking purely focuses on the impending costs and resultant revenue implications (Guru & Staunton 2002; Berger, 2003).

A study by Mohammad & Saad (2011) on the impact of electronic banking on the performance of Jordanian banks over the period (2000- 2010) concluded that electronic banking negatively affects banks' performance which was akin to the findings of Delgado, Hernando & Nieto (2007) and Siam (2006). Electronic banking adoption impacts on a bank's risk profile. The risk management principles issued by Basel Committee in July 2003 for electronic banking recognize the related risk factors and the committee's aim was to promote and enhance safety of services provided by online banking while observing flexibility in line with emerging technologies as a result of the turbulent environment.

Unlike the study of Nader (2011) who observed Saudi Arabia's commercial banks profit efficiency over the period of time ranging from 1998-2007. The survey study findings provide that accessibility of banking via the mobile phone, the ATMs and the various bank branches had a significance on profitability and efficiency

in Saudi Arabia's banks. Scrutiny by Malhotra & Singh (2009) on the effect of internet banking on performance of commercial banks in India found that there was insignificant relationship. This corresponds to the deductions of DeYoung (2005); Arnaboldi & Claeys (2010).

Similarly, a study done by Hernando and Nieto (2005) on commercial banks numbering 72 in Spain over a period of 1994-2002 to establish their financial performance on the adoption of a transactional website found that there was a significant impact on profitability, which was the same as DeYoung, Lang & Nolle (2007) who observed that profitability is highly realized in internet banks than in non internet banks in traditional analogue banks. De Young et al. (2007) identified the factors that affect bank's performance in the e-banking platform by undertaking a survey study of United States (US) community banks and did an appraisal on virtual click and mortar banks effect on firm's performance. The study confounded that bank's profits actually improved due to online banking by accelerating meaningful revenue.

A consumer acceptance of online banking study by Pikkarainen et al (2004) found that banks get noteworthy cost savings by offering online banking services and that it enables them to trim their branches and reduce on the staff numbers which gives way to self-service channels (Karjaluoto, Koivumäki, & Salo, 2003). Centeno (2004) notes that there are two categories of factors affecting e-banking adoption, these are; factors that relate to retail banking, and those that relate to the infrastructure and technology accessibility comprising of skills and competences on the part of customers in the usage of internet and other associated technologies, internet penetration rate, technological attitude, and internet security and privacy issues. It again involves aspects such as online banking culture, banking culture, mutual trust in banking institutions and push in internet banking. Berger (2003) observed how bank profits are affected by banks spending in view of the prevailing competition and concluded IT leads to cost saving, but higher spending on IT generates network effects that affect profits negatively. Simpson (2002) posits that operating costs reduction and high revenues realization is a major driver to ebanking. A comparison study between emerging and developed markets depicted that greater revenues and lower operating costs are realized in developed markets. Furst, Lang, & Nolle (2002) contended that the application of click and mortar business model in Federal Chartered US banks results in reasonably high return on equity (ROE). They also noted the banks with greater profitability resulted from embracing internet banking after 1998.

Polatoglu & Ekin (2001) undertook a study on Turkish retail banking sector in which they found out that actually e-banking reduces banks' operational costs and it accelerates customer's satisfaction and retention rate. Sullivan and Richard (2000) studied USA brick and mortar banks and found no significant advantage of internet banking in this practice. Jayawardhena (2000) showed that cost reduction, profitable gains, and efficiency are derived from internet banking, yet it is noticed that very few banks use it and that only fewer clients constituting less than five hundred thousand has so far embraced the technological services in ebanking in the UK.

2.4.2 Local Research Studies

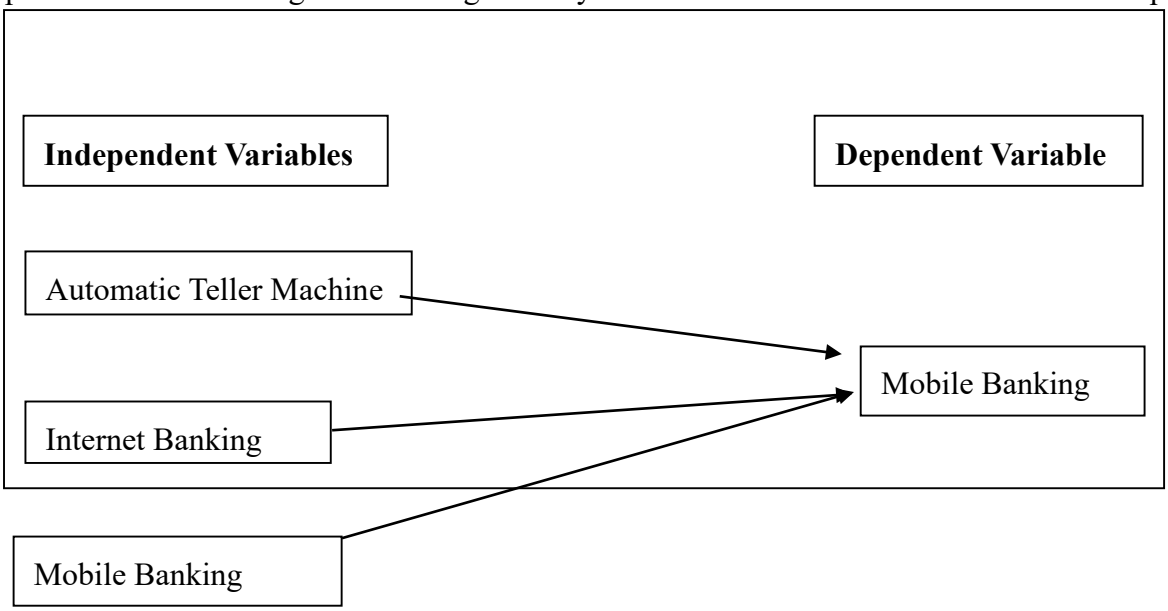
Various studies done in Nigeria have also shown the effect of e-banking on performance in the banking industry. Kariuki (2005) studied Nigeria's commercial banks and the effect on financial performance due to the different products developed. The study found out that the development of new products positively affected financial performance in Nigeria's banks. Oluwagbemi, Abah, & Achimugu (2011) conducted a study on Nigeria's commercial banks adoption of electronic banking. The study findings revealed that the adoption was of great benefit but was predicated on the bank services being available 24/7, facilitating faster service delivery and customer satisfaction.

Chaven (2013) in his study found that banks offering internet banking are mainly large banks with a large asset base as well as profit margin as contrasted with non-internet banking banks. The results revealed that averagely, internet banks post more profit than non-internet banks. However, the multiple regression results revealed a small, not significant association between a bank's performance and offering internet banking, larger significant and negative association with risk profile of the banks meaning that internet based banks become better off from risks such as nonperforming loans. However, the benefit expected of internet banking is yet to show some substantial positive financial gains and requires future investigation as internet banking matures in the country.

A research paper done by Kariuki (2005), showed the positive impacts of ICT on banks' performance. He established that deployment of e-banking results in increased profits though in long-term but not in short-term due to the initial capital outlay for the ICT investment. Further he offers evidence that the usage of e-banking can result in market share growth, diversified product range and products that are tailored to suit customer needs which ensures that the commercial banks are in an improved position to satisfy customer demands.

2.5 Research Framework

A research framework is necessary to develop on how the relation between e-banking and financial performance of the Nigerian banking industry is correlated and the direction between the pairs.



3. RESEARCH METHODOLOGY

3.1 Population and sample size

The study was centered on all the commercial banks governed and licensed by the Central Bank of Nigeria. A census survey was used.

3.2 Data Collection

The study used secondary data which encompassed a mixture of published and unpublished material pertinent to the research. The secondary data is significant as it includes the logical framework of the research (Agwu & Carter, 2014). For the purpose of the study, the collected secondary data included Central Bank of Nigeria periodic reports and financial reports of the commercial banks for the period 2013 to 2017.

Data on financial performance such as earnings and financial ratios were obtained from the audited financial statements while data on electronic banking services such as services offered and their respective quantities were obtained from the various CBN periodic reports. **3.3 Data Analysis**

The data was cleaned, sorted and checked for completeness and consistency after collection. Statistical package for the social sciences (SPSS) was then used to analyses the data's descriptive statistics such as maximum, minimum, mean, and standard deviation to outline sample characteristics and significant trends from the collected data. A multiple linear regression model was then employed to estimate the relationships between the variables.

3.4 Model Specification

The regression model was as follows:

$Ybt = \alpha o + \beta 1ATMit + \beta 2Mit + \beta 3Iit + \varepsilon$

Where;

Y_{bt}=financial performance represented by ROA of bank b in year.

Bt= Estimate value of the year.

ATM=Value of transaction through ATM.

M= Value of transaction through mobile banking.

I= value of transaction through internet banking. t= Year. ε= Error term.

To find the value of α and β, the multivariate regression model was employed. The individual beta estimate reliability was then tested by the p-value in the ANOVA table.

The regression model's significance was tested at 95% confidence interval and 5% level of significance.

4. RESULTS AND DISCUSSIONS

4.1 Descriptive analysis

The descriptive statistics results are tabulated below:

Table 1: Descriptive Statistics

Description	**ROA**	**cards Mobile (₦M)**	**Paymentts Internet (₦M)**	**Banking ATM (₦M)**
N	42	42	42	42
Minimum	-7.54	0	0	0
Maximum	7.152	14773.21	10124.981	125109.6
Mean	2.667	8568.242	5872.34	72753.014

Stnd. Dev.	2.679	4236.359	2903.436	37412.21
Skewness	-1.285	-0.359	-0.359	-0.243
Std. Error	0.365	0.365	0.365	0.365
Kurtosis	3.949	-1.285	-1.285	-1.325
Std. Error	0.717	0.717	0.717	0.717

Source: Generated from SPSS statistical output

Table 4.1 above illustrates the average ROA of all the commercial banks in Nigeria over the study period to be 2.667 with a maximum of 7.152 and the minimum of 7.54. A small standard deviation of 2.679 was noted implying that there was low variation of ROA across the commercial banks. In addition, the mean of the total value of ATM cards was 8568.242 million recording the highest value of 14773.21 million. The mean total value of the mobile payments was 5872.34 million with a maximum of 10124.981 million. The internet banking mean was noted to be 72753.014 million across the commercial banks. High standard deviations were noted on total value of ATM card transactions, mobile payments as well as internet banking meaning there was a high variation across all the commercial banks with regards to total transaction value of ATM cards, mobile payments and internet banking.

4.2 Correlation Analysis

To measure the strength of the association between the variables, the study put to use the Karl Pearson's coefficient of correlation. The Pearson product-moment correlation coefficient determines the strength of a linear association between two variables and is denoted by *r* which can take a range of values from +1 to -1. A value of 0 designates that there is no association between the two variables. A value greater than 0 designates a positive association while a value less than 0 designates a negative association. The Pearson's coefficient was employed to ascertain the presence or absence of linear correlation between the variables of e-banking and financial performance. The outcomes are as follows:

Table 2: Correlation Analysis

Variable	ROA	ATM Cards	Mobile payments	Internet Banking
ROA	1.000			
ATM Cards	0.679	1.000		
Mobile payments	0.612	0.326	1.000	
Internet Banking	0.574	0.254	0.076	1.000

Source: Generated from SPSS statistical output

Results from table 4.2 above reveal that there is a significant positive association between use of ATM Cards and financial Performance (r = .679, P-value < 0.009). This implies that ATM Cards influences financial performance in commercial banks in Nigeria. The findings also disclosed a substantial positive association

between mobile payments and financial Performance (r = .612, P-value < 0.013). Thus, implying that mobile payments influences financial performance in commercial banks in Nigeria.

The findings indicated a noteworthy positive association between internet banking and financial Performance (r = .574, P-value < 0.026) thus, depicting that internet banking influences financial performance in Nigeria's commercial banks.

4.4 Regression Analysis

The correlation coefficient (R) value represents the degree and strength of relationship between dependent variable and the independent variables (Sekaran, 2003). Coefficient of correlation ranges between -1 and 1 and in this model the coefficient of correlation is 0.896 which indicates a positive correlation between ROA, ATM Cards, mobile payments, and internet banking. The R Squared is the coefficient of determination which indicates how much of the total variation in the dependent variable. From the above the R squared statistic gives the goodness of fit of the model which shows how good the regression model approximates the real data points. The R squared of this model is 0.802 which shows that the model is a good fit of the actual data. The coefficient of determination of 0.802 implies that 80.2% of the variance in dependent variable is explained by changes in the independent variables. **4.4.2 ANOVA (Analysis of Variance)**

Table 3: ANOVA (Analysis of Variance)

Model	Sum of Squares	DF	Mean	Square F	Sig.
Regression	6.942	3	2.314	6.51	.001[a]
Residual	13.507	38	0.355		
Total	20.449	41			

Source: Generated from SPSS Statistical Output

a. Predictors: (Constant), ATM Cards, mobile payments, and internet banking

b. Dependent Variable: ROA

The model summary also indicates that the dependent variable (ROA) is significantly accurately predicted by the regression model. The statistical significance of the regression model that was run is shown by the F test. The P=0.001, which is less than 0.05 designates that, generally the regression model statistically and significantly predicts the outcome variable that is good fit for the data.

4.5 Coefficient of Correlation

Table 4: Coefficient of Correlation

	B	Std. Error	Beta	t	Sig.
(Constant)	7.232	0.643		11.24	.0000
Total value from ATM Cards	0.802	0.343	0.23	2.34	.0247
Total value from mobile payment	0.769	0.305	0.46	2.52	.0160

Total value from internet bank.	0.593	0.291	0.31	2.04	.0486

The overall equation model for ROA, ATM Cards, mobile payments, and internet banking was as follows:
$Y_{bt} = 7.232 + 0.802ATM_{it} + 0.769M_{it} + 0.593I_{it} + \varepsilon$
From the model, in any given month, the ROA will be 7.232 when all the predictor values are zero. The model indicates that when the value processed through ATM Cards changes by one unit the ROA will increase by 0.802. In addition, mobile payments total changes by one unit the ROA increases by 0.769. Further, the study findings revealed that when the internet banking value changes by one unit the ROA will increase by 0.593. To test the significance of each individual variable which was based at 0.05 the t-test was carried out. The result indicates the mobile payments and internet banking have a value of 0. 0160 and 0.0486 against the ROA in the model respectively. This shows that the relationship between ROA, mobile payments and internet banking is significant. The relationship between ROA and ATM cards recorded at rate of 0.0247 which is significant since it's less than p-value (P.0.05).

4.6 Discussion of Findings

The objective of the study was to assess the effect of electronic banking on the financial performance of Deposit Money Banks in Nigeria. This was evaluated by use of secondary data and the succeeding analysis centered on the variables of the study (return on assets, value of ATM transactions, value of mobile banking transactions and value of internet banking transactions).

Results indicate that the regression model is significant in explaining the changes in the independent variable as measured by return on assets caused by changes in the three independent variables namely value of ATM transactions, value of mobile banking transactions and value of internet banking transactions. This is in line with the findings of Abaenewe, Ogbulu, & Ndugbu (2013) that indicated that changes in profitability of Nigeria's commercial banks is significantly explained by variations in electronic funds transfer.

The study findings indicated that the value processed through ATM cards positively and significantly influenced the financial performance of commercial banks in Nigeria. This correlates to Abaenewe, et. al (2013) who noted that a steady rise in the financial performance of banks has been occasioned through an upsurge in ATM usage as measured by number of ATMs. This also agrees to Jayshree, (2013) who listed initiation of accounts, monitoring of accounts and execution and logging of transactions as some of the banking services that have been transformed by deployment of ICT by banks. He notes that self service facilities have resulted from embracing ICT and this has enabled bank customers to be able to authenticate their account numbers and obtain instructions on when and how to receive their credit and debit cards and cheque books.

The study established that mobile banking significantly and positively influences the financial performance of commercial banks in Nigeria. This is in line with Mallat, Rossi & Tuunainen (2004) who state that mobile services are among the newest services that the banks offer. Through this service, the customers receive messages on their cell phones when transactions that pertain to the customers such as those involving their cards or accounts take place. This goes a long way into lowering the risk that the customers' account or cards are being exploited by an individual who is not the customer. The finding also tallies to Jegede (2014) that

mobile banking has reinvented the methods of operations of banks in Nigeria and positively influenced the performance of the commercial banks.

The study further reveals that internet banking positively and significantly influences the financial performance of commercial banks in Nigeria. This correlates with Joseph (2013) who states internet banking permits clients to execute transactions at an opportune place and time. The finding also agrees to Agboola (2006) who indicated that modern technology was the major driver of competition in the banking sector. In the study an upsurge in the deployment of various e-banking tools was highly evident. The study indicated that the utilization of modern ICT practices significantly improves the bank's reputation and eventually results to foster efficient and effective service delivery.

5.0 CONCLUSION AND RECOMMENDATIONS 5.1 Conclusion

The study indicates that the e-banking independent variables (ATM, mobile and internet banking) measured by the value of transactions effected explain the financial performance of Nigeria's commercial banks as measured by the return on assets. This is inferred from the strong relationship between the dependent variable and the independent variables found by the study.

The study concludes that e-banking has contributed positively to the financial performance of Nigeria's commercial banks. This is inferred from the trends recorded in the variables where the value of transactions effected through e-banking had a positive and significant influence on financial performance of commercial banks in Nigeria. E-banking provides effective and efficient channels that facilitate improved service delivery and diversified products tailored to client needs.

Kaye, Ongundele & Obaro, (2013) believed that it is now glaring that ATM cards positively and significantly influenced the financial performance of commercial banks in Nigeria. In addition, the study concludes that mobile banking significantly and positively influences the financial performance of commercial banks in Nigeria. The study further concludes that internet banking positively and significantly influences the financial performance of commercial banks in Nigeria. Deployment of ATMs, mobile banking and internet banking has enabled banks to cut down on their costs for offering services to customers and also to expand their reach to a wider market (Sanusi, 2010). E-banking has also enabled the banks to increase the volumes of transactions that can be processed in a day to virtually an unlimited number. This works towards improving the performance of the banks.

5.2 Recommendations

Following the findings above, it is this study's recommendation that:

1. There is dire need for commercial banks to increase their efforts towards adoption of e-banking to automate their service delivery to customers. This follows the positive effect that e-banking usage has on the financial performance of Nigeria's commercial banks as noted through the study.
2. The banking industry's policy makers and regulators also need to cogitate on e-banking as a major input when crafting guidelines to regulate the industry. This is as a result of the major influence that technology has on the performance of the commercial banks. As the country continues to take on developing partners to accentuate its technological capacity, banks will continue to increasingly leverage on technology to improve their performance notwithstanding the risks associated
3. The study further recommends that commercial banks keep embracing the use of mobile banking in their day to day operations because the population of people with access to a cell phone keeps swelling every

day. The banks should keep working in tandem with mobile network companies to craft innovative services that are tailored to their targeted market. **Suggestions for Further Research**

1. The banking industry has other players in addition to commercial banks. This study was centered on only the registered commercial banks and excluded mortgage finance companies, Bank of Industry, Bank of Agriculture, cash remittance providers, credit reference bureaus, microfinance banks, foreign banks representation offices and foreign exchange bureaus. It is this studies recommendation that research be carried out on the other players in the banking industry to determine effect of electronic banking on the whole banking industry in Nigeria
2. The study also recommends that research be carried out on the effect of ebanking on the performance of commercial banks in other countries within west Africa. Most of the major commercial banks in Nigeria have expanded into the neighboring countries and such a research will benefit them to focus their strategies for increasing their returns in the external market
3. In addition, the study proposes that research be done in Nigeria on the influence of e-banking on the growth of the country's real gross domestic product in order to establish the residual effect of e-banking on Nigeria's economy. This will enable the banks and Government understands how ebanking usage translates to the country's economic performance instead of looking at its benefits in isolation.

REFERENCES.

Abaenewe, Z.C., Ogbulu, O.M., &Ndugbu, M.O. (2013). Electronic Banking and Bank Performance in Nigeria.*West African Journal of Industrial and Academic Research, 6(1), 171-187.*

Agboola, A. (2006). *Information and communication technology (ICT) in banking operations in Nigeria: An evaluation of recent experiences.* Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/AAPAM/UNPAN02 6533

Agwu, E. M., & Carter, A. L. (2014). Mobile Phone Banking in Nigeria: Benefits,

Problems and Prospects. *International Journal of Business and Commerce, 3(6) 50-70.*An integrated model. *MIS Quarterly,27*(1), 51-90.

Arnaboldi, F. & Claeys, P. (2010). Innovation and performance of European banks adopting Internet. London: Centre for banking research. Business School, City

Asikhia, O. & Sokefun, A. (2013). Capital adequacy and banks' profitability. Empirical evidence from Nigeria. *American International Journal of Contemporary Research,* 3(10), 91-92.

Atm Standards and guidelines (2010) http://www.cbn.gov.ng.

Berger, A. N. (2003). The economic effects of technological progress: Evidence from the banking industry. *Journal of Money, Credit and Banking,35*(2), 141-76.

Centeno, C. (2004). Adoption of internet services in the acceding and candidate countries, lessons from the internet banking case. *Telematics and Informatics,21*, 293-315.

Central Bank of Nigeria. (2017). *Bank supervision annual report.* Retrieved from https://www.cbn.gov.ng/images/docs/Bank%20Supervision%20Reports/Annual%20Reports/2014BSAnnualReport.pdf

Chaven, J. (2013). Internet Banking- Benefits and Challenges in an Emerging Economy. *International Journal of Research in Business Management, 1(1) 19-26.*

Delgado, J., Hernando, I. & Nieto, M. J. (2007). Do European Primarily Internet banks show scale and experience efficiencies? *European Financial Management,13*(4), 643-671.

DeYoung, R. (2005). The performance of internet-based business models: Evidence from the banking industry. *Journal of Business,78*(3), 893-947.

DeYoung, R., Lang, W.W. & Nolle, D. L. (2007). How the internet affects output and performance at community banks. *Journal of Banking & Finance,31*, 10331060

Furst, K., Lang, W. W. & Nolle, D. E. (2000a). Who offers internet banking? *Quarterly Journal,19*(2), 27-46.

Furst, K., Lang, W. W. & Nolle, D. E. (2000b). Internet banking: Developments and prospects, economic and policy analysis. Working Paper No. 2000-9, Office of Comptroller of the Currency, September.

Furst, K., Lang, W.W. & Nolle, D. E. (2002). Internet banking. *Journal of Financial Services Research*, *22*(1/2), 95-117.

Gefen, D., Karahanna, E. & Straub, D. W. (2003). Trust and TAM in online shopping:

Gerrard, P., & Cunningham, J. B. (2003). The diffusion of internet banking among Singapore consumers. *International Journal of Bank Marketing,21*(1), 16-28.

Guru, B., Staunton, J. & Balashanmugam, M. (2002). *Determinants of commercial bank profitability in Malaysia,* working papers, University of Multimedia.

Hernando, I. & Nieto, M. J. (2005). Is the Internet Delivery Channel Changing Banks' https://www.cbn.gov.ng/images/docs/CBKAnnualReports/Annual_Report _2017.pdf

Jayawardhena, C. & Foley, P. (2000). Changes in the banking Sector: the case of Internet banking in the UK, Internet Research. *Electronic Networking Applications and Policy,* 10(1), 19-30.

Jayshree, C. (2013). Internet Banking- Benefits and Challenges in an Emerging Economy. *International Journal in Research and Business Management, 1(1), 1926.*

Jegede, C.A. (2014). Effects of Automated Teller Machines on the Performance of Nigerian Banks.*American Journal of Applied Mathematics and Statistics, 2(1), 40-46.*

Joseph I. U. (2013). Information Technology for Effective Supervision of the Marketing Executives in the Banking Industry in Nigeria.*Journal of Economic and Sustainable Development, 4 (9),82-90.*

Kariuki, N. (2005). *Six puzzles in electronic money and banking.* IMF working paper, IMF Institute, 19.

Karjaluoto, H., Koivumäki, T. and Salo, J. (2003). Individual differences in private banking: empirical evidence from Finland. *Proceedings of the 36th Hawaii International Conference on System Sciences (HICSS)*, Big Island, Hawaii, p.

Kaye, O.L., Ongundele, O.J., & Obaro, A. O. (2013). Government Bailout of Financially Distressed Banks in Nigeria.A Justifiable Strategy?. *Journal of Business and Social Science, 4(80), 174-180.*

Kingoo, M. (2011). Challenges for monetary policy: New and old, Bank of England. *Quarterly Bulletin,* 397-415.

Kolodinsky, J. K. Hogarth, J. M., &Hilgert, M. A. (2004). The adoption of electronic banking technologies by US consumers. *The International Journal of Bank Marketing,* 22(4), 238-259.

Malhotra, P, Singh, B. (2009). The Impact of Internet Banking on Bank Performance and

Mallat, N., Rossi, M., & Tuunainen, V. (2004). Mobile Banking Services. *Communications of the Acm, 47*(5), 42-46.

Mohammad, A. O & Saad, A. A. (2011). The impact of E-Banking on the performance of Jordanian banks. *Journal of Internet Banking and Commerce,16*(2), 42-50.

Moon, J.-W. & Kim, Y. G. (2001). Extending the TAM for the World-Wide-Web context. *Information and Management,* (38), 217-230.

Moser, D. V., Evans, J. H. & Kim, C. K. (1995). The effects of horizontal and exchange inequity on tax reporting decisions. *Accounting Review.70*(4), 619634

Nader, A. (2011). The effect of banking expansion on profit efficiency of Saudi banks. 2nd International Conference on Business and Economic Research (2nd ICBER 2011) Proceeding 269.

Nadim, J. & Begum, N. (2008). The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking. *African Journal of Business Management,2*(1), 32-40.

Nibss Nigeria (2017). http://nibss-plc.com.ng

Oluwagbemi O., Abah J., &Achimugu P. (2011). The Impact of Information Technology in Nigeria's Banking Industry. *Journal of Computer Science and Engineering, 7 (2), 63-67.*

Ovia, J. (2001). *Internet banking: Practices and potentials in Nigeria.* A paper at the conference organized by the Institute of Chartered Accountants of Nigeria (ICAN), Lagos. Performance? The Case of Spanish Banks. Banco de Espana*,* Unpublished Manuscript.

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research,14*(3), 224–235.

Polatoglu, V.N., and Ekin, S. (2001). An empirical investigation of the Turkish consumers' acceptance of internet banking services. *International Journal of Bank Marketing,19*(4), 156-165.

Risk: The Indian Experience. Eurasian. *Journal of Business and Economics,* 43- Sanusi, L. (2010). The Nigerian Banking Industry: What Went Wrong and the Way Forward. *Convocation Lecture Delivered at the Convocation Square, Bayero University Kano, Kano-Nigeria.*

Sathye, M. (1999). Adoption of internet banking by Australian consumers: an empirical investigation. *International Journal of Bank Marketing*, 17(7), 32434.

Sekaran, U. (2003). *Research methods for business: A skill building approach*, 4edn. New York: John Wiley and Sons Inc.

Siam, A. Z. (2006). Role of the Electronic Banking Services on the Profits of Jordanian Banks. *American Journal of Applied Sciences*, *3*(9).

Simpson, J. (2002). The impact of the internet in banking: Observations and evidence from developed and emerging markets. *International Journal of Telematics and Informatics, 19*, 315-330.

Steven, A. (2013). *Information systems: The information of e-business.* New Jersey: Natalie Anderson.

Sullivan, R. J. (2000). How has the adoption of Internet banking affected performance and risk at banks? A look at Internet banking in the tenth Federal Reserve district, Federal Reserve Bank of Kansas City. *Financial Industry Perspectives,* (December), 1–16.University.