EFFECT OF ELECTRONIC BANKING ON COMMERCIAL BANK PERFORMANCE IN NIGERIA

Simon Nwagballa Nwankwo[1] and Elias Igwebuike Agbo[2]

[1&2]Department of Accounting and Finance, Faculty of Management and Social Sciences, Godfrey Okoye University, Ugwuomu-Nike, Emene, Enugu State, Nigeria

Abstract: The main aim of this study was to examine the effect of electronic banking on the performance of Nigerian commercial banks. Specifically, it sought to determine the effect of automated teller machine transactions ,point of sale terminals transactions and mobile banking transactions on the performance of commercial banks in Nigeria. The study adopted the *ex post facto* research design and covered the period from 2013 to 2017. E-views statistical tool was used for the analysis of the data obtained. The results of the study reveal that automated teller machine transactions have positive and significant effect on the performance of commercial banks in Nigeria while both point of sale terminal transaction and mobile banking transactions have negative and weak effects on the performance of the commercial banks in Nigeria . The study recommends that the management of banks should adopt such innovations in their operations as would shore up their profitability.

Keywords: Electronic Banking, Commercial Bank, Performance, Point of Sale , Automated Teller Machine,Nigeria

1. Introduction

The world has witnessed tremendous expansion and development in the recent years, particularly in information communication technology (ICT). This has prompted banks to exploit this development to communicate data and information through modern technology and the Internet with the intention of providing broader benefits to customers for the pursuit of excellence in service (Sulieman & Ahlam-Jebreen, 2017). Thus, electronic banking is the use of electronic and telecommunication networks to deliver a wide range of value-added products and services to bank customers. The use of information technology in banking operations is called electronic banking. Some author argues that electronic banking is a product of e-commerce in the field of banking and financial services. Banks are also offering payment services on behalf of their customers who shop in different e- shops. It is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution .

Today's business environment is extremely dynamic and experiences rapid changes as a result of technological improvement, increased awareness and demands that banks serve their customers

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electronically. Banks have traditionally been in the forefront of harnessing technology to improve their products and services (Mawutor, 2014). The Banking industry of the 21st century operates in a complex and competitive environment characterised by these changing conditions and highly unpredictable economic climate. ICT is at the centre of this global change curve of electronic banking system in Nigeria today. Managers in the banking industry in Nigeria cannot ignore information systems because they play a critical impact in current banking system by pointing out that the entire cash flow of most banks are linked to information systems.

E-payment systems are becoming central to online business process innovation, as companies look for ways to serve customers faster and at lower cost. In line with this, Chhabra, Suri and Verma (2012) recommend that electronic payment systems are being used in air ticketing, insurance, banking, retail, health care, online markets and even governments - in fact, everywhere money needs to change hands. The advantages of an electronic mode of transfer over and above the conventional clearing house are numerous and conspicuous as banks are increasingly turning to technology for managing their payments . Some of the value attributes include secure payments, cost cutting, payment on due date and easier cash management compared to conventional systems. They have invested huge amounts of money in implementing the self-banking services with the objective of improving the quality of customer service. The development of e-banking services is expected to decongest banking halls and reduce the incidence of long queues in banking halls. ICT -based financial services have made a significant contribution in reducing the cost of offering financial services.

Over the past few years, the payment industry in Nigeria has been transformed with the new wave of IT advancements. Currently the use of cash has been replaced by digital cash and digital wallets. It can be rightly said that this is the fourth stage of evolution after Barter, Currency, Paper money (Cheques) and now digital cash (Abaenewe, Ogbulu & Ndugbu, 2013). Commercial banks in Nigeria are reported to have exponentially embraced the use of information and communication technologies in the provision of banking services which has enhanced the application of e-payments. The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concern to all banks and indeed a prerequisite for local and global competitiveness banking. The advancement in technology has played an important role in improving service delivery standards in the banking industry. In its simplest form, automated teller machines (ATMs) and deposit machines now allow consumers to carry out banking transactions beyond banking hours .

Thus, Nigerian banks today are seriously into new electronic delivery channels for banking products and services with a view to delivering better services and satisfying customers the more. Banks that cannot offer these services are increasingly losing their customers. Furthermore, existing literature shows that e-banking has been adopted by the Nigerian banks at a slow pace. Prior to the advancement of the e-banking, there were 89 commercial banks in Nigeria. The number of banks, however, reduced to 24 banks due to the consolidation (i.e., mergers and acquisition) program. After the consolidation, many banks have started to adopt the e-banking system IT facilities, such as global system for mobile communication (GSM) phones, ATM, Internet

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facilities, optical character recognition (OCR), smart cards, funds transfer, e-banking, electronic mail, and bankers automated clearing services, are now being used as a means of banking transactions.

Despite the significant role electronic banking has demonstrated so far, its maintenance and cost are too high for some banks and customers. For instance, the use of pointof sale(POS) terminals in the cashless system attracts special charges that do not go with cash transactions. A price tag of 1.25% of the cost of every transaction done through POS terminals is charged by the operators of the terminals. This may be considered over-burdensome on the banking public given that this will not obviate nor lessen the normal commission on turnover charged by banks on withdrawals. Apart from being an additional charge on bank customers, the charges appear to be too high. Normal bank commission on turnover is 5 for every 1000 representing 0.05% of the amount of such transactions, compared to the CBN approved charges of 1.25% which would mean 12.50 for every 1000. Currently, apart from personnel costs, technology is usually the biggest item in the budget of a bank, and the fastest growing one. Further, there are reported cases of system breakdown and inconsistence services on the on-line connectivity. This has affected banks effectiveness and efficiency of operation with its attendant negative impact on their productivity and overall profitability. Similarly, banks are often faced with system redundancy due to rapid technological changes resulting to excessive costs hence, lower profitability.

Moreover, the issue of insecurity and lack of privacy occasioned by the activities of hackers is another problem militating against the banks from milking the full benefit offered by e-banking. These could lead to financial and capital losses due to inaccurate processing of transactions, data privacy and confidentiality, unauthorized access or intrusion to financial institutions' systems and transaction, which will in turn, take a heavy toll on their profitability and overall performance.

Regardless of the importance of e-banking in explaining banking performance, the impact of e-banking on banks performance, is still misunderstood for two main reasons; first, there is a lack of understanding about the drivers of innovation and secondly innovation's impact on bank's performance remains untested. Previous researchers have produced mixed results regarding the impact of innovations on bank performance. It is at the center of such mixed conclusions that creates and necessitates the need to carry out a study from a Nigerian context to establish the effect of electronic banking on commercial bank performance in Nigeria

The main aim of this study therefore was to examine the effect of electronic banking on the performance of Nigerian commercial banks. Specifically, it sought to determine the effect of automated teller machine transactions ,point of sale terminals transactions and mobile banking transactions on the performance of commercial banks in Nigeria.

Statement of Hypotheses

The following null hypotheses were tested:

Ho1: Automated teller machine transactions have no significant effect on performance of commercial banks in Nigeria.

Ho2: Point of sale terminal transactions have no significant effect on the performance of commercial banks in Nigeria.

Ho3: Mobile banking transactions have no significant effect on performance of commercial banks in Nigeria. The remaining part of this paper is arranged as follows. In section 2, a brief review of the related literature . Section 3 describes the empirical model, while section

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4 presents the estimation results and discussion . Section 5 concludes the study.

2. Review of the related literature
2.1 Conceptual Review
2.1.1 Concept of Electronic Banking

The revolution of information technology has influenced almost every spheres of life; notable is the banking sector. The introduction of electronic banking has changed and redefined the ways banks were operating. Similarly, the emergence of global economy, e-business has increasingly become a necessary component of business strategy and a strong catalyst for economic development, as technology is now considered the major contributor for organizations' success and as their core competencies. Consequently, electronic banking system has become an important practice among commercial banks in Nigeria, owing to the fact that the introduction of this banking system has improved banking efficiency in rendering services to customers. Thus, the banks (domestic or foreign) are investing more on providing the customers with the new technologies through e-banking Electronic banking can be described as using the internet as delivery mode for the provision of services like opening a deposit account, electronic bill payment, online transfers, online withdraws, and in fact, any other online banking transaction. Electronic banking has also been defined as the medium of using electronic devices, like internet, wireless connections, networks, ATM, phone and cell phones in banking services. According to Abaenewe, Ogbulu and Ndugbu (2013), electronic banking is the conduct of banking business electronically which involves the use of information communication technology to drive banking business for immediate and future goals.

Electronic banking system is seen to be an innovative service delivery mode that offers diversified financial services like cash withdrawal, funds transfer, cash deposits, payment of utility and credit card bills, cheque book requests, and other financial enquiries, (Onyedimekwu & Oruan, 2013). Similarly, Imiefoh (2012) considers electronic banking as an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution. That is, automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. E banking generally implies a service that allows customers to use some form of computer to access account-specific information and possibly conduct transactions from a remote location like home or workplace.

As a result of its convenience and flexibility, e-banking has become popular. Also, it has some transaction related benefits like speed, efficiency, accessibility (Elisha, 2010). Elisha(2010) describes e-banking as the term used for new age banking system, it could also be called online banking and it is an outgrowth of PC banking. That is a banking which includes the systems that enable financial institution customers, Individuals or businesses, to access accounts, transact business, or obtain information on financial products and services through a public or private network, including the Internet or mobile phone. further, electronic banking is referred to as the process of using the internet as delivery mode for the provision of services like opening a deposit account, electronic bill payments, and online transfers. These services can either be provided by the banks having physical offices or by creating a website

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and providing services through that or services can be provisioned through a virtual bank as well. The internet is used as a strategic and differentiating channel to offer high valued financial services and complex products at the same time or improved quality at lower costs without physical boundaries and to cross sell products like credit cards and loans.

For many consumers, electronic banking means 24-hour access to cash through an automated teller machine or direct deposit of paychecks into checking or savings accounts. But electronic banking involves many different types of transactions (Simpson, 2012). According to this author, electronic fund transfer (EFT) is a components of electronic banking uses computer and electronic technology as a substitute for checks and other paper transactions. The federal Electronic Fund Transfer Act (EFT Act) covers some electronic consumer transactions (Simpson 2002, Fox and Beier (2016). ATMs are electronic terminals that enable one to engage in banking transactions almost any time. To withdraw cash, make deposits, or transfer funds between accounts, one would generally insert an ATM card and enter ones PIN. Some financial institutions and ATM owners charge a fee, particularly ifone does not have ac-counts with them or if one engages in transactions at remote locations. Generally, ATMs must inform one that they charge a fee and its amount on or at the terminal screen before you complete the transaction. Direct Deposit enables one to authorize specific deposits, (like paychecks and Social Security check and other benefits) to your account on a regular basis. One may also pre-authorize direct withdrawals so that recurring bills (like insurance premiums, mortgages, utility bills, for Consumers) are paid automatically

Pay-by-Phone Systems enables one to call your financial institution with instructions to pay certain bills or to transfer funds between accounts. One must have an agreement with the institution to make such transfers (Simpson 2002). Personal Computer Banking can facilitate the handling of many banking transactions via a personal computer.

2.1.2 Concept of Commercial Bank Profitability

The profitability of the banking sector is important as it is employed in estimating the constancy and reliability of the financial and banking sector. Profitability has been defined as the variation between expenses and revenues through a fixed period of time, generally fixed period is consisting of one financial year. This is essential to banks who need to generate sufficient amount of income to growth and expand. The profit planning and management is more complex in the highly challenging economic environment. The profitability is represented by three alternative variables. First and most important profitability ratio is the return on asset (ROA).This ratio shows the ability of bank asset to produce the profit. Another ratio is the return on equity (ROE), this ratio mentions the returns to shareholders on their equity. The next one is the return on Investment (ROI), it measures the bank's efficiency by using invested capital. Earnings per share (EPS) equally serves as a pointer of a bank's profitability. Another scholar stated that Net profit margin (NPM) and Tobin Q as bank's profitability factor.

2.2. Theoretical Review

This section provides an overview of information system adoption, factors determining customers' acceptance of e-banking and introduces the concept of customer loyalty. All the adoption models like Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB) and Theory of Reasoned Action (TRA) were developed for studying technology adoption in developed countries; however, technology

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adoption in developed countries might be different from those of developing countries as the challenges are different in various contexts (Molla & Licker, 2005).

2.2.1 Technology Acceptance Theory (TAT)

Davis, Bagozzi, and Warshaw (1989) propose TAT to explain the conceptual model that users' intention or acceptance degree towards information system or new technology. TAT is constructed on the foundations of perceived usefulness and perceived ease of use. Perceived usefulness refers to individual belief to improve the degree of job performance through using particular new technology and information system. Perceived ease of use indicates how easy an individual learns how to operate or use new technology or information system. The model places more emphasis on how perceived ease of use would positively affect perceived usefulness. Exogenous variables such as environment are also the antecedent that induces perceived usefulness and perceived ease of use.

Thus, TAT is based on both important perceptive factors as perceived usefulness and perceived ease of use. TAT is widely applied on the research of information technology. Liu and Arnett (2010) examined the significant variables to build a successful website based on TAT theory. As a result of the empirical study, scholars find that TAT does not only apply to examine new information technology accept intention or behavior, but also ensures that TAT is suitable for the explanation of online user behavior issues (Pavlou, 2013).

2.2.2. Theory of Planned Behavior (TRA)

Early studies mainly focus on theory of reason action (TRA) as identified by (Fishbein & Ajzen, 1975). TRA is based on the fundamental variables of attitude and subjective norm. The two variables are seen to have a positive effect on individuals' behavioral intentions, which positively induce individuals' actual action.

Attitude is an individual's positive or negative evaluation of self-performance of a particular behavior. The concept is the degree to which performance of the behavior is positively or negatively valued. Subjective norm is an individual's perception about particular behavior, which is influenced by the judgment of significant others (e.g., parents, spouse, friends, teachers). Behavioral intention is an indication of an individual's readiness to perform a given behavior and it is assumed to be immediate antecedent of behavior. However, the basic hypothesis of TRA states that the occurrence of behavior is based on volitional control of one's willpower (Fishbein and Ajzen, 1975). Thus, the behavior occurs mostly from one's willing. Thus, Ajzen (1985) modifies TRA and further proposes the theory of planned behavior (TPB). TPB is founded on the three factors as perceived behavioral control, attitude, and subjective norms. Hence, behavioral intention is influenced by perceived behavioral control, attitude, and subjective norms. Actual behavior is, in turn, determined by behavioral intention. Among all, perceived behavioral control refers to individual's perceived ease or difficulty of performing the particular behaviors. In recent years, the use of internet has been widespread and has been more diversified. Studies on TPB applying on electronic commerce have increased.

2.2.3 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) which was formulated in 1975 by Fishbein and Ajzen has been used extensively in marketing research. TRA has been applied to explain the behaviour beyond the acceptance of technology and includes four general concepts: behavioural attitudes, subjective norms, intention to use and actual use. It argues that individuals evaluate the consequences of a particular behaviour and create intentions to act that are consistent with their evaluations.

More specifically, TRA states that individuals' behaviour can be predicted from their intentions, which can be predicted from their attitudes and subjective norms. Following the chain of prediction further back, attitudes can be predicted from an individual's beliefs about the consequences of the behaviour. Subjective norms can be predicted by knowing how significant other individuals think the behaviour should or should not be done. A particularly helpful aspect of TRA from a technology perspective is its assertion that any other factors that influence behaviour do so only indirectly by influencing attitude and subjective norms. Such variables would include, amongst others things, the system design characteristics, user characteristics (including cognitive styles and other personality variables) and task characteristics.

Hence, TRA is quite appropriate in the context of predicting the behaviour of using multimedia technology. Although TRA, is a very general theory and as such does not specify what specific beliefs would be pertinent in particular situations. Nevertheless, the inclusion of subjective norm represents an important variable, which is not even included in more popular models.

2.3 Empirical Review

Abaenewe, Ogbulu and Ndugbu (2013) investigated the profitability performance of Nigerian banks following the full adoption of electronic banking system. Judgmental sampling method was adopted by utilizing data collected from four Nigerian banks. These four banks are the only banks in Nigeria that have consistently retained their brand names and remain quoted in the Nigerian Stock Exchange since 1997. The profitability performance of these banks was measured in terms of returns on equity (ROE) and returns on assets (ROA). The data collected were tested using a standard statistical technique for independent sample at 5 percent level of significance for performance factors such as ROE and ROA. The study revealed that the adoption of electronic banking has positively and significantly improved the returns on equity (ROE) of Nigerian banks. On the other hand and on the contrary, it also revealed that e-banking has not significantly improved the returns on assets (ROA) of Nigerian banks.

Agwu, Atuma, Ikpefan and Aigbiremolen (2014) investigated the impediments to e-banking services marketing within the Nigerian state. The study adopted a mixed method approach – comprising of both interview techniques and the use of questionnaires for data collection. Findings are multi-faceted and viewed from three angles viz: the user based, institutional based and the government related roles. Findings further revealed among others the poor educational imbalance especially between the North and South and the lack of adequate policy framework to safeguard customers' money as some of the challenges. The strategic implications of all these are clearly discussed and clear-cut recommendation derived for implementation by all concerned.

Amu and Nathaniel (2016) carried out a study on the relationship between electronic banking and the performance of Nigerian commercial banks. Electronic banking was proxied by value of Point-of-Sale transactions while commercial banking performance was proxied by customers' deposits. Engle-Granger cointegration model was used to analyse data for the sample period January 2009 to December 2013. The results show that POS is not cointegrated with both the savings and time deposits but are cointegrated with demand deposits. It is recommended that the monetary authorities and commercial banks should embark on an all inclusive enlightenment campaign for the banking public on the benefits, convenience and importance of

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adopting e-banking channels in completing their transactions.

Sulieman and Ahlam-Jebreen (2017) examined the impact of Electronic banking services on the customers' loyalty of commercial banks in Jordan. The Electronic banking services represented by (ease of use, usefulness, cost of use, web site design, Privacy and accessibility). The study used random sample of 400 participants while SPSS version17 was used to examine the study hypotheses and achieve its objectives. The study found that there is statistical significant impact of the Electronic banking services (Ease of use, usefulness, Web Site Design, privacy) on Customers loyalty of commercial Banks in Jordan. Regarding the dimension of Accessibility, the study indicates that it had insignificant impact on Customers loyalty.

Mawutor (2014) investigated on the impact of electronic banking on the profitability of a Bank in Ghana. The methodology was quantitative in nature. In all, 150 questionnaires were administered to the interviewee from the selected branches of the Agricultural Development Bank who are customers, to solicit information concerning the E-banking. All data from the structured self-administered questionnaires were correctly organized. The software that was used for this is, Statistical Package for Social Sciences (SPSS). After testing the hypothesis by using inferential statistics, it was discovered that E-banking does have an impact on the profitability of the Agricultural Development bank. There was a significant increase in the net profit margin of the bank in the year (2011) E-banking was introduced and the even though it fell in the next year (2012) which wasn't much, it increased again in the third year (2013).The study revealed that E=banking has a positive effect on ADB's Profitability.

Agboola (2016) in his study on Information and Communication Technology (ICT) in Banking operations in Nigeria using the nature and degree of adoption of innovative technologies; degree of utilization of the identified technologies; and the impact of the adoption of ICT devices on banks, found out that technology was the main driving force of competition in the banking industry. During his study he witnessed increase in the adoption of ATMs, EFT, smart cards, electronic home and office banking and telephone banking. He indicates that adoption of ICT improves the banks' image and leads to a wider, faster and more efficient market. He asserts that it is imperative for bank management to intensify investment in ICT products to facilitate speed, convenience, and accurate services, or otherwise lose out to their competitors.

METHODOLOGY

3.1 Research Design

This study adopted the *ex post facto* design. Research design provides a blueprint that guides a researcher in carrying out the set investigation and analysis in the research work..

3.2 Nature and Sources of Data

This work employed time series data extracted from already existing sources and covers the period of 1985 – 2015. The data were obtained from different sources, The 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 Model of Specification

The regression model adopted for data analysis is as follows:

$Y_t = a_0 + \beta_1 ATM_t + \beta_2 POS_t + \beta_3 MB_t + e$ - - - - (1)

Where:

Y_i = Net Profit which stands proxy for profitability/financial performance .

ATM = the volume of ATM system transactions in banks

POS = the number of point of sale terminals.

MB = the usage levels of Mobile banking

a_0 = Estimated value of Y when all the other variables are zero

β = Correlated volatility of estimated value of Y

e = Error term

The above model was modified and used for hypotheses

Hypothesis one

$PAT_t = \beta_0 + \beta_1 ATM_t + \beta_t INFR_t + e$ - - - - - (2)

Where:

PAT = Profit after Tax

Profit after tax: is a financial performance ratio arrived at after deducting corporate tax from net income.It is significant because it shows how well a company controls its costs.

ATM: An automated teller machine (ATM) is an electronic telecommunications device that enables customers of financial institutions to perform financial transactions, such as cash withdrawals, deposits, transfer funds, or obtaining account information, at any time and without the need for direct interaction with bank staff

Inflation rate: The inflation rate is a measurement of the rise in price of a good or service over a period of time reflected as a percentage. It is usually measured on a monthly and annual basis in Nigeria.

Exchange rate: An exchange rate is the price of a nation's currency in terms of another currency. Thus, an

β = Correlated volatility of estimated value of Y

ATM = the volume of ATM system transaction in banks

INFR = Inflation Rate

Hypothesis two

$PAT_t = \beta_0 + \beta1POS_t + \beta2EXR_t + e$ - - - - - (3)

Where:

PAT = Profit after Tax

β = Correlated volatility of estimated value of Y

POS = is the number of point of sale terminals

EXR = Exchange Rate

Hypotheses three

$PAT_t = \beta_0 + \beta_1 MBt + \beta_2EXR_t + e$ - - - - - (4) Where:

PAT = Profit after Tax

β = Correlated volatility of estimated value of Y

MB = is the usage levels of Mobile banking

EXR = Exchange Rate

3.4 Description of Model variables

exchange rate has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly.Both annual inflation and exchange rates were introduced in the analysis as control variables.

Mobile banking: Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct financial transactions remotely using a mobile device such as a smartphone or tablet. Unlike the related internet banking it uses software, usually called an app, provided by the financial institution for the purpose. Mobile banking is usually available on a 24-hour basis. Some financial institutions have restrictions on which accounts may be accessed through mobile banking, as well as a limit on the amount that can be transacted.

4.Data Presentation and Analysis

4.1 Results and Analysis

Data analysis depicts how the data collected for each of the variables are analyzed with different analytical tools.

4.2.1 Unit Root Test

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	ADF	cv@5%	Probability	Inference
PROFIT	-4.647823	-2.914517	0.0004	1(1)
ATM	-4.817430	-2.914517	0.0002	1(1)
MB	-4.551859	-2.914517	0.0005	1(1)
POS	-5.980921	-2.014517	0.0000	1(1)
EXR	-4.094527	-2.914517	0.0021	1(1)
INFR	-5.562391	-2.915522	0.0000	1(2)

	LPROFIT	LATM	LMB	LPOS	LEXR	INFR %
Skewness	-0.045569	-875808	-0.344116	-0.668098	0.492494	0.711502
Kurtosis	1.807428	3.901624	2.051666	2.920811	1.551537	1.906627
Jarque-bera	3.576333	9.702715	3.432506	4.479222	7.670619	8.051015
probability	0.167267	0.007818	0.179738	0.106500	0.021595	0.017854
observation	60	60	60	60	60	60

ATM__N__NUMBERS	28.77093	4.887196	5.887002	0.0000
INFR_N__%	-0.011100	0.008849	-1.254435	0.2208
C	4176.489	6590.165	0.633746	0.5318

R-squared	0.579890	Mean dependent var	22591.02
Adjusted R-squared	0.547574	S.D. dependent var	42503.51
S.E. of regression	28588.98	Akaike info criterion	23.45713
Sum squared resid	2.13E+10	Schwarz criterion	23.59857
Log likelihood	-337.1284	Hannan-Quinn criter.	23.50143
F-statistic	17.94427	Durbin-Watson stat	1.647903
Prob(F-statistic)		0.000013	

Unit root testexam es the property of the variables. It is used to check for the presence of a unit root, to know whether the variables been studied are stationary. It is also used to ascertain the regression technique to adopt for analysis and testing of hypotheses. The augmented dickey fuller (ADF) test is used to carry out this test on the E-views software package and its results from the test are tabulated below:

The acceptable value for the Durbin Watson Statistic is 2 but it permits a range of 0.2. The Durbin-Watson Statistic is 1.647903 and since fall within the acceptable range, the model is free from autocorrelation and it is reliable. The underlying assumption of auto-correlation is that, the successive values of the random variable are temporary independent. Auto-correlation usually indicates that an important part of the variation of the dependent variable has not been explained.

From the above, the interpretation of the result as regard the coefficient of various repressors' is stated as follows: The value of the intercept which is 4176.489 shows that the financial performance (PAT) will experience a 4176.489 increase when all other variables are held constant. The estimate coefficient which is 28.77093{CAE}, -0.011100{FIE}, shows that a unit changes in number of ATM and inflation (INFR) will cause 28.77093{28770.93%}, -0.011100{-1.11%}, increase/decrease in profitability (PAT) respectively. It is observed that the signs of ATM and INFR parameter actually confirm to the economic theories. A negative relationship which exists between INFR and financial performance (PAT) indicate that a fall in INFR will result in a negative change in the profit after tax (PAT); while the positive relationship which exists between ATM and PAT will result to positive change in the financial performance. Based on above information that the estimated regression model is represented as follows:

PAT = 4176.489+ 28.77093ATM -0.011100INFR +μ

Considering the value obtained from the estimation of the model with the table value. The P-value is 0.000013 which is less than 0.05 and is therefore significant and reliable. This implies that there is significant and positive relationship between number of ATM and banks financial performance in Nigeria and a negative relationship between, inflation rate and banks financial performance in Nigeria (PAT) at the 5% level of significance, meaning if there is a 0.011100 decrease of INFR there will be a decrease in PAT by 0.011100 and if there is an increase of 28.77093 in ATM there will be corresponding increase in PAT by 28.77093.

Test of Significance (F–statistic)
F-statistics test the overall significance of the model under study. F-calculated is compared with F-tabulated where F- cal is greater than F-tab we reject the null hypothesis (Ho) and conclude that the variable is statistically significant in explaining the dependent variable. The result shows in table above indicate that sum of square regression (SSR) are statistically significant at 5 percent alongside with mean square of regression (MSR). F*****-calculated is compared with F-tabulated; we accept the alternative hypotheses (Hi) and conclude that the variable is statistically significant in explaining the dependent variable. F*-calculated is 17.94427 and the corresponding p value of 0.000013<0.05 is significant.

4.3.2 Test of hypothesis two
Step I: Restatement of the hypothesis in null and alternate form.

Ho: Point of sale terminal (POS) transaction had no positive and significant impact on performance of commercial banks in Nigeria within the period considered.

H1: Point of sale terminal (POS) transaction had no positive and significant impact on performance of commercial banks in Nigeria within the period considered.

STEP II: Presentation and discussion of the results arrived at using the estimation technique.
Result of model two
 PAT = f(POS, EXR) Dependent Variable: PAT_N__MILLION
 Method: Least Squares
 Date: 08/18/18 Time: 09:24
 Sample: Jan 2013 Dec 2017
 Included observations: 60

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
POS__N_N UMBER	26.08562	4.297088	6.070534	0.0000
EXR_____	-907.3097	996.7466	-0.910271	0.3702
C	8926.416	20868.53	0.427745	0.6720
R-squared	0.665911	Mean dependent var		22480.94
Adjusted R-squared	0.642870	S.D. dependent var		41431.37
S.E. of regression	24759.53	Akaike info criterion		23.16087
Sum squared resid	1.78E+10	Schwarz criterion		23.29828
Log likelihood	-367.5739	Hannan-Quinn criter.		23.20642
F-statistic	28.90156	Durbin-Watson stat		0.605195
Prob(F-statistic)		0.000000		

4.3.3 Analysis of the Regression Coefficients for model two

Results of hypothesis tested (see appendices) Statistic	Model TWO
R2	0.665911
AR2	0.642870
F statistic	28.90156
error estimate of regression	24759.53
sum of squares residual	1.78E+10
DW	0.605195
Mean dependent var	22480.94
S.D. dependent var	41431.37
C	8926.416
Coeff. POS N' number	26.08562
EXR	-907.3097
P-value	0.000000

Date: 08/18/18 Time: 09:39
Sample: Jan 2013 Dec 2017
Included observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MB	34.0748	32.90746	10.33428	0.0000
EXR_____	-907.3097	996.7466	-0.910271	0.3702
C	678.4614	677.5767	1.001306	0.3240
R-squared	0.763944	Mean dependent var		4873.429

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Adjusted R-squared	0.756791	S.D. dependent var	6508.237
S.E. of regression	3209.619	Akaike info criterion	19.04114
Sum squared resid	3.40E+08	Schwarz criterion	19.13001
Log likelihood	-331.2199	Hannan-Quinn criter.	19.07182
F-statistic	106.7973	Durbin-Watson stat	1.268422
Prob(F-statistic)		0.000000	

indicate that sum of square regression (SSR) are statistically significant at 5 percent alongside with mean square of regression (MSR). F*****-calculated is compared with F-tabulated; we accept the alternative hypotheses

5. Conclusion

This study sought to determine the effect of electronic banking on commercial banks performance in Nigeria for the period of 2013 to 2017. The results of the study show that automated teller machine (ATM) transactions have positive and significant effect on performance of commercial banks in Nigeria, point of sale terminal (POS) transaction have no positive and significant impact on performance of commercial banks in Nigeria and mobile banking transactions have no positive and significant effect on performance of commercial banks in Nigeria these findings have some policy implications. The study shows that E-banking has strong and significant marginal effects on profitability of commercial banks in Nigeria. Thus, there exists positive relationship between e-banking and bank performance. The implication is thatthe adoption of

(Hi) and conclude that the variable is statistically significant in explaining the dependent variable. F*-calculated is 106.7973 and the corresponding p value of 0.000000<0.05 is significant.

electronic banking has enhanced Nigerian banking industry by making it more productive and effective; Electronic banking also has a strong positive relationship on the overall banking performance by making workers performance more effective and efficiency. The electronic banking has made banking transaction to be easier by bringing services closer to its customers hence improving banking industry performance.

The study recommends that the management of banks which are slow in innovation adoption, to move in and adopt various innovations in their operations in order to shore up their profitability. In addition, policy makers should also review policies related to the promotion of innovation adoption and transfer of technology. Government should encourage adoption of innovations that will improve profitability of organizations.

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