

Impact of Electronic Banking on the Operational Performance of Deposit Money Banks in Kaduna State, Nigeria

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Article DOI: 10.48028/iiprds/ijdshtmss.v13.i1.04

Abstract

The purpose of this study is to investigate the effect of electronic banking on the performance of deposit money banks in Kaduna Metropolis of Kaduna State, Nigeria adopting descriptive survey research design and anchored on the Technology Acceptance Model. The study population consists of 193 managerial cadre employees of fifteen deposit money banks in Kaduna Metropolis, and since this population size was relatively small, all the 193 members of the population were selected in the study using total sampling technique. The study used primary data which were collected with a questionnaire, and data analysis was done using descriptive statistics and OLS – Multiple Regression Analysis. Findings from the results of the data analysis showed that there was significant positive relationship between e-banking (Mobile Banking and ATM) and the performance of deposit money banks in Kaduna Metropolis. Findings also revealed that Mobile Banking implementation and ATM implementation significant positive impact on the performance of deposit money banks in Kaduna Metropolis, respectively. Hence, the study concludes that e-banking has significant positive relationship with the performance of deposit money banks, with the impacts of Mobile Banking and ATM being significantly positive. The study therefore, recommended that the management of the banks should continually improve the quality and efficacy of e banking services so as to encourage customers to utilize them in carrying out their banking transactions, as this has the propensity of generating more income for the banks; hence improving their performance, among other recommendations.

Keywords: *ATM, Bank Performance, Deposit Money Bank, Electronic Banking, Mobile Banking.*

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Background to the Study

Almost all developed and some developing countries in the world today, operate cashless driven economies (Muotolu and Nwadiakor, 2019). This means that financial and banking transactions are basically carried out without human tellers and physical bank instruments (cash and cheques). In Nigeria, of recent, the use of human tellers as well as physical cash and cheques for conducting banking transactions is gradually giving way for more effective methods of performing banking transactions through the utilization of intelligent electronic digital systems which are inventions of modern Information Technology (Eze and Egoro, 2016).

According to Ibrahim and Daniel (2019), the banking industry in Nigeria is keeping up to the modern methods of conducting financial and banking transactions as obtained in advanced countries, as remarkable changes have been noticed in recent times regarding the way financial and banking transactions are conducted banks and their customers. Through the introduction of universal banking model as well as the adoption of electronic banking in Nigeria, deposit money banks in the country have been able to provide increased services to customers, with an attendant upsurge in risk exposure to customers. The varying environment of has also significantly impacted on the number of electronic banking services provided by the banks which has increased their exposure to risks on a daily basis (Ibrahim and Daniel, 2019).

According to Obiekwe and Anyanwaokoro (2017), over the years, with advancements in Information Technology and Globalization, diverse electronic banking products have been developed ranging from mobile banking to Point of Sale (POS) services in order to ease banking transactions for banks and their customers. These electronic banking products have been adopted and utilized by many banks and their customers in Nigeria because of their many benefits which include; comfort of doing transactions and payment for goods and services anywhere without having to go to the bank. Also, banks who deliver effective and quality e-banking services have the tendency to attract more customers than those that are not able to provide these (Offei and Nuamah-Gyambrah, 2016).

Earlier studies on electronic banking have a fundamental limitation as many of them were conducted in countries outside Africa and very few of these conducted in Africa were carried out in Nigeria. Also, many of the prior studies carried out in Nigeria did not focus on the nexus between e-banking and the banks' performance. Therefore, it is against this backdrop that this current study attempts investigating the effect e-banking has on the performance of deposit money banks in Kaduna Metropolis of Kaduna State, Nigeria. This current study however, differs from previous related studies as it views the adoption and level of implementation of e-banking as determinants of deposit money banks' performance. The study nevertheless, focuses on only two e-banking services/products - Mobile Banking and Automated Teller Machine (ATM). Consequently, the study specifically endeavours to:

- i. Determine whether Mobile Banking implementation has a significant effect on deposit money banks' performance in Kaduna Metropolis of Kaduna State.
- ii. Ascertain whether ATM implementation has a significant impact on the deposit money banks' performance in Kaduna Metropolis of Kaduna State.

Review of Literature

Concept of Electronic Banking

Electronic banking or e-banking refers to provision the information and services of a bank to its customers through diverse delivery that are run are various terminal devices which includes personal computers, laptops, telephones, and digital mobile phones (Onodugo, 2015). According to John and Rotimi (2015), e-banking refers to channels through which banks conduct transactions and interact with stakeholders with the use of ICT. In the view of Ekienabor, Akpoguma and Arilesere (2018), e-banking refers to the utilization of the internet as a remote channel of delivery for the provision of the services of banks such as account opening, funds transfer, and payment of utility bills. They further stated that e-banking has become an important channel for selling of goods and services of bank customers, and making payments for these. This has caused a paradigm shift in marketing practice, thereby, boosting the performance of deposit money banks (Ekienabor et al., 2018)

Loide and Teresia (2018) maintained that e-banking is an e-commerce product in the banking and financial sector. Ibrahim and Muneer (2018) termed e-banking as the delivery of banking services via electronic channels. The duo further stated that electronic banking has been in existence for a long time in the forms of Automated Teller Machine (ATM) and telephone banking. However, in contemporary times, the internet has helped changed e-banking through the evolution and introduction of new delivery channels which has made it very easy and convenient for banks and customers to carryout banking transactions effortlessly (Ibrahim and Muneer, 2018). This implies that e-banking makes it easy for bank staff and customers to carryout transactions at their own comfort and convenience. The introduction of e-banking has brought changes in the manner in which financial transactions are conducted by individuals and organizations in Nigeria as they now withdraw cash, deposit cash, and transfer money from their accounts to other accounts without necessarily stepping into the brick-and-mortar banking hall (Ekanem, Abiso, Adeniyi, and Adeogun, 2017). Also, customers can now pay their utility bills such as water and light bills, pay their DSTV and other TV subscriptions, and pay their children school fees without much stress from the comfort of their rooms without going to queue up in the brick-and-mortar banking hall (Ekanem, et al., 2017). This form of banking has the potentials of increasing the profitability of a bank as well as increasing customers' satisfaction through effective service delivery and cost reduction; thereby, creating possibility for the achievement of efficiency in the bank, and ultimately enhance the performance of the bank (Ekanem, et al., 2017).

Mobile Banking

The term mobile banking refers to carrying out banking transactions via the use of portable digital devices such as mobile phones and other mobile digital devices (Jean, 2017). With mobile banking, customers can check the balances of their bank accounts, perform inter or intra bank funds transfer, recharge their phones, make subscription for DSTV and other TV packages, make payment for utility bills, and carry out many other banking transactions via their internet-enabled mobile phones or PDAs (Hauwa, Shazida, and Abdul-Hakim, 2017). The earliest form of mobile banking were using SMS in what was termed as SMS banking. Mobile banking is arguably one of the most utilized e-banking channels in the world today

even in rural and remote areas as its use requires little or no infrastructure but just an internet-enabled phone whose phone number is linked to the customer's bank account (Hauwa et al., 2017). This type of e-banking is common in societies where most members of the population lack access to brick and mortar banking services especially in areas where banks are very far away from the community (Jean, 2017).

Automated Teller Machine

ATM is an integrated computer terminal with a cash vault and record-keeping system all in one compartment that allows users access their bank accounts using a plastic card called ATM card after providing a personal identification number (PIN) (Jegade, 2014). Conventionally, ATM is accessed by keying in a special code number that is linked with the customer's bank account into the machine. The ATM is intended to decongest banking halls and provide alternate channels for customers to access cash outside the banking hall especially during hours that the banks have closed for business. With the ATM, customers are able to access their account information, check their balances, withdraw cash, and make payments of all types of bills. ATM was first introduced as a cash dispensing machine, but in recent times, it offers a wide range of banking services such as account balance enquiry, recharge card purchase, and transfer of funds, which can be carried out 24/7 in a day (Jegade, 2014). A fundamental advantage of the ATM is that it is situated outside the banking hall in the bank's premises and sometimes they are sited outside the premises of the bank such as stores, super markets, shopping centres, and fuel stations. It saves customers the time they would use in queuing up in banking halls; hence providing quick service delivery for the bank. ATM is an efficient and cost reduction way of generating greater yields as they tend to achieve greater outputs per period of time than the human tellers (Jegade, 2014).

Concept of Performance

Performance is perhaps, the most extensively utilized dependent variable in research studies concerning business organizations and banks. However, simultaneously, it is one of the vaguest and carelessly defined concept (Sifunjo, George, Mary, and Ann, 2015). The measurement of financial performance is a bit problematic, particularly when the item or variable being measured varies keeps varying (Peter and Emenike, 2016). Organizational performance consists of the definite output of an organization measured against its intended output. Performance measurement is the process of consistent and methodological data collection, analysis and reportage meant to be utilized by a firm in order to follow up the resources it utilizes, and the results and it obtained with the goods produced and services provided (Aliyu, Adamu, Abdu and Singhry, 2015). According to Ngango, Mabazize, and Shukla (2015), performance is measured using the balanced score card (BSC) which reports aspects that failed to include financial measurements, but immaterial and highbrow effects such as high-grade deals which are more fundamental to the realization of goals of the business.

According to Vincent, Caroline, and Kemboi (2016), the measurement of performance is aimed at enabling employees' development, provision of feedback and guidance, setting performance goals, identifying training needs, and provision of input for pay management

and administration, compensation and advancement. The steps involved in effective performance include identification of key performance areas, setting yearly objectives for each key performance indicator, identification of crucial features of functional performance, interval review of performance, discussion of performance with employees, and ascertaining of needs for training and development.

Ehiru et al, (2016) opined that initiatives of performance measures failed due to poor design and hitches in implementation. Organizational performance must be quantified on the basis of organizational and work unit levels which require balancing magnitudes and info for preparation, trailing, breakdown, and enhancement. They further argued that performance measures must emphasis on what makes and recognizes drivers of success, supports organizational learning, and provides basis for evaluation and compensation. According to Vincent, Caroline, and Kemboi (2016), proper performance measures are those measures that help a firm to put in their actions in order achieve the planned objectives of the firm. Therefore, the performance measures utilized by firms are those that support the firm's business objectives. This is because the performance of the firm is key to its imminent wellbeing and affluence. Charles (2016) argued that the commonly used measure of financial performance is profitability. He further argued that profitability refers to surplus income over expenditure, which is expressed by the ratios such as net profit margin, gross profit margin, and return on equity. Nevertheless, measuring performance using profit has many limitations.

An organization's performance informs the organization whether it has reasonably performed its business as demanded during a stated period of time so as to achieve organizational goals (Oladejo, 2016). The performance of an organization is most times explained in the published financial statements of the organization. A good assessment of an organization's performance begins by determining whether the organization has been able to attain organizational goals. All organizations may not certainly have the same goals; some may desire to develop faster and attain some long-range developmental goals, while others may prefer quiet life, minimizing risk and portraying a sound likeness of the organization. The size of an organization, the volume of its transaction/output, and the profitability of the organization are considered as dependable indicators of a firm's performance. Olaiya and Adeleke (2019) posited that a reasonable assessment of the performance of a bank ought to begin by assessing if it has been able to accomplish the organizational goals set by its management and shareholders; since, surely, individual banks have different goals. In view of the aforesaid, deposit money bank's performance in this study is measured by the ability and propensity of a bank to introduce new e-banking products in order to enhance customers' transactions: as increased transactions inevitably, enhances profitability.

Nexus between Electronic Banking and Performance of Banks

According to Amaduche, Adesanya, and Adediji (2020), the speedy trend of technological development and the increasing acceptance of digital way of life as well as the fact that there is global increase in the adoption of electronic business. This is evident in the immense use of electronic payment systems for transactions as against the use of physical cash. The contemporary business environment is particularly vibrant and is experiencing swift changes

as a consequence of technological development and improved consciousness, which requires banks to provide electronic services to their customers. According to Amaduche et al. (2020), there are several justifiable reasons for the adoption and implementation of electronic banking by banks. One of such key reasons is the expansion of the banks' market to national and international ones. Hence, having only minimal capital amount, a bank may rapidly discover more, the finest, and the most appropriate customers to do business with, globally (Benyam and Fayera, 2021). The minimum capital outlay also enables banks to acquire materials and facilities from other companies speedily at minimal cost, which reduces or completely eliminates channels for marketing distribution, thereby, making products, while dealers make greater profits (Benyam and Fayera, 2021). It also enables small banks to compete against big banks as well as enabling a very specialized niche market (Eze and Egoro, 2016).

Nevertheless, Papazoglou and Ribbers (2006) maintained that banks often have problems on the need to adopt any form of discovery, of which e-banking is still new. The duo further argued that factors to be considered before the adoption of any form of innovation by banks are; firm size, structure of organizational, and the quality of personnel. Technologies, which are the internal and external factors are also important for banking business. Other factors to be considered are; the environment where the bank carries out its business, contenders, and government. On a broader level, issues like technological competency, size of bank, scope of bank, consumer willingness, and pressure of competition are significant factors that.

Based on the literature reviewed above, it can be gathered that Nigerian banks adopt e-banking in order to reduce transaction cost, improve operations, expand their business base, better understand the needs of foreign customers, increase their profit levels, reduce communication obstacles, and quick products transfer. Electronic banking may also help banks to secure information about the needs of specific customers and foreign transactions all over the world 24/7.

Theoretical Review

The relevant theories reviewed in this study are; Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), and Technology Acceptance Model (TAM).

Theory of Reasoned Action (TRA)

The TRA model was pioneered by Fishbein and Ajzen (1975). According to this theory, the behaviour of a person is vastly influenced by the person's intent of performing that particular behaviour, and this intent is conjointly influenced by two aspects - attitude towards the behaviour and subjective norm (Davis, Bagozzi, and Warshaw, 1989). The TRA model was however, criticized by Ajzen (1991) because it failed to compromise in situations in which a person is not under the control of choice. Additionally, the predictive power of the TRA is limited it is applied to situations where there is high correlation between actual behaviour and intention (Yousafzai, Foxall, and Pallister, 2010).

Theory of Planned Behaviour (TPB)

Due to the shortcomings of the TRA, Ajzen developed the Theory of planned Behaviour (TPB) and added a new constructs called Perceived Behavioural Control (PBC) (Ajzen, 1991).

Consequently, there are three factors that influence a person's intent to carry out specific behaviours. These are; attitude towards behaviour, subjective norm, and perceived behavioural control. Nevertheless, Yousafzai et al, (2010) posited that both TRA and TPB still hold the assumption that there is nexus between intent and behaviour, Therefore, the predictive power of the TPB model will still not be strong if it is applied in a situation in which intent and behaviour are strongly associated. They also criticized the model for ignoring some factors which are capable of increasing its predictive power, such as; the affective evaluation of behaviour and personal norms.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) pioneered by Davis (1989), offers a model that is deliberately scheduled to describe a person's behaviour concerning the use of computers. This model was articulated on the framework of the TRA. In this theory, the actual behaviour is highly determined by behavioural intention, and the behavioural intention is jointly determined by 'attitude toward' and perceived usefulness. Besides determining the behavioural intention, perceived usefulness together with ease of use also affect attitude. This extension of the model is not without critics.

Based on the theories reviewed above, the theoretical framework of this study is the Technology Acceptance Model (TAM) since it provides reasons for accepting computer applications. In addition, the model helps scholars and experts alike in probing the reason for not accepting a specific system. It also helps to discover the attitudes of users toward utilization of the system and the system's apparent expediency are both influence by the apparent ease of utilization of the system. The Theoretical Acceptance Model suggests that if the apparent usefulness of the system and the apparent simplicity are more, the attitude towards it will be more positive. Therefore, attitude leads to greater intent towards utilization of the system, which consequently, evidently influences the actual system utilization. Agreeing with TAM while other things remain constant, apparent effectiveness is highly dependent on the apparent simplicity of utilization because when technology is applying, it increases its effectiveness.

Empirical Review

Amaduche, Adesanya, and Adediji (2020) carried out a study to examine if electronic banking has a positive relationship with the operations and performance of deposit money banks in Nigeria by adopting a survey research design. Three banks – First Bank Nigeria Plc, United Bank for Africa and Guarantee Trust Bank were purposively selected for the study from the twenty-two deposit money bank branches in the Federal Capital Territory – Abuja, while a total of 108 employees of the banks were randomly selected as respondents in the study. Data for the study were collected with a questionnaire, while data analysis was done using frequency/percentage distribution analysis and Pearson correlation analysis. Findings from the study revealed that electronic banking has positive significant relationship with the operations and performance of deposit money banks in Nigeria.

Asidok and Michael (2018) investigated the impact of mobile banking transactions on bank profitability in Nigeria using data of four sampled commercial collected from the Central

Bank of Nigeria, National Bureau of Statistics and the annual report and statement of accounts of the sampled banks from 2007-2016. Return on Assets (ROA) was used as proxy for profitability of the banks. The study used the panel unit root and Seemingly Unrelated Regression Estimations (SURE) model estimation technique to analyze the data for four selected old and new generation banks in the study. The results of the data analysis revealed that ATM and mobile banking transactions had significant positive influence on the profitability of the banks.

Musa, Kurfi, and Hassan (2015), conducted a study to examine the impact of electronic banking on the performance of Nigerian banks. Specifically, the impact of e-banking on the ROA, ROE, and NIM of the banks, before and after banking consolidation in Nigeria. Data for the study were sourced from the published annual reports of commercial banks in Nigeria, while data analysis was done using descriptive statistics and t – test. Findings from study revealed that e-banking has significant positive relationship with the performance of Nigerian banks.

Obiekwe and Anyanwaokoro (2017), investigated the effects of ATM, POS, and Mobile Payment on the profitability of commercial banks in Nigeria using five commercial banks operating in the country. The data used in the study were collected from the Central Bank of Nigeria and the Annual Reports and Statements of Accounts of the five commercial banks, while the data was analysed using a Panel Least Squares regression model. Findings from the study revealed that ATM and Mobile Payment had significant positive and negative effects on the profitability of the commercial banks in Nigeria.

Olaiya and Adeleke (2019), conducted a study to examine the effect of electronic banking on the profitability of deposit money banks in Nigeria between 2010 and 2018 adopting ex-post facto research design. The study used secondary data collected from the Central Bank of Nigeria (CBN) Statistical Bulletin and Financial Stability Reports. The data pertained to the variables - transactions on automatic teller machine (ATM), transactions on point-of-sale terminals (POS), transactions on mobile banking (MB), and transactions on internet banking (IB), while data on the performance of the banks was proxied by returns on assets (ROA). The data were analysed using Autoregressive Distributed Lag (ARDL) model. Findings of the study revealed that ATM had insignificant positive relationship with ROA (bank performance), while mobile banking had insignificant negative relationship.

Oladejo (2016), examined the impact of four electronic banking solutions (ATM, POS, internet banking and mobile banking) on the profitability of deposit money banks in Nigeria using secondary data obtained from the annual report and accounts of ten quoted deposit money banks in Nigeria from 2005 to 2012. The data were analyzed using panel logistic regression analysis and findings revealed that ATM and mobile banking had significant positive impact on the performance of deposit money banks in Nigeria based on return on assets (ROA), gross margin and profits after tax (PAT).

Methodology

Research Design

Based on the fact that this paper attempts to investigate the effect of electronic banking on deposit money banks' performance in Kaduna Metropolis of Kaduna State, it adopted descriptive survey research design.

Population Size of the Study

The target population of this study consists of the total number of employees of managerial level in the fifteen (15) deposit money banks operating in Kaduna metropolis of Kaduna State, Nigeria. Information gathered from the individual banks showed that they have a total of 193 managerial level employees. The distribution of this population is given in Table:

Table 1: Study Population

S/N	Deposit Money Bank	Employees of Managerial Level
1.	First Bank	22
2.	GT Bank	18
3.	Eco Bank	16
4.	Zenith Bank	13
5.	Access Bank	12
6.	UBA	20
7.	Diamond Bank	10
8.	Union Bank	14
9.	Fidelity Bank	8
10.	FCMB	15
11.	Stanbic IBTC	10
12.	Polaris Bank	8
13.	Sterling Bank	7
14.	Wema Bank	9
15.	Unity Bank	11
	Total	193

Source: Human Resources of Individual Deposit Money Banks in Kaduna Metropolis, 2021.

Sample Size for the Study

Due to the fact that the population size of the study ($N = 193$) was not relatively large, the study used the entire population as the sample size in the study. Hence sample size (n) = 193.

Sampling Technique

Since the population size was used as the sample size in this study, it implies that a total population sampling technique was utilized in the selection of respondents.

Instrument for Data Collection

The study used a questionnaire in the collection of primary. The questionnaire was designed by the researcher following the research questions of the study; is self-administered and contains structured close-ended questions. It consists of three segments – A, B, and C. The first section contains close-ended questions that seek to collect information on the socio-

demographic characteristics of respondents such as; gender, marital status, age category, highest educational attainment, and number of years worked in the banking sector. Section B contains close-ended questions that seek to know respondents' views and opinions on the impact the adoption and implementation of Mobile Banking has on deposit money banks' performance. Respondents are expected to select only one answer option from the multiple answer options available for each question in the section. The answer options are framed on 5-point Likert scale, where: 5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, and 1 - Strongly Disagree. Section C also contains close-ended questions that seek to know respondents' opinions on the impact the adoption and implementation of ATM has on deposit money banks' performance. Respondents are expected to select only one answer option from the multiple answer options available for each question in the section. The answer options are framed on 5-point Likert scale, where: 5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, and 1 - Strongly Disagree.

Validity of Instrument

This study used face validity method in validating the instrument used in collecting data. This method of validation is the easiest and perhaps, the least expensive technique of validating research instruments. The questionnaire was administered to an expert in measurement and evaluation and to an independent scholar to examine and assess the questions and instructions. The results of the assessments indicated a sound level of harmony among the assessors, which is an indication that the questionnaire is very much valid for collection of primary data on electronic banking and deposit money banks' performance in Kaduna metropolis of Kaduna State, Nigeria.

Reliability of Instrument

In order to determine the reliability of the questionnaire in this study, the internal consistency reliability method was used by employing the Cronbach's alpha reliability test. This test was used in determining the reliability of the questionnaire using data collected with it in a pilot study conducted with 20 bank employees of managerial level in Zaria, Kaduna State who volunteered to participate. The result of the Cronbach's alpha test returned an alpha coefficient of 0.725 which is a suggestion that the instrument is of good reliability and internally consistent.

Variables Used in the Study

The dependent variable in this study is 'Bank Performance', while 'adoption/implementation of Mobile Banking' and adoption and implementation of ATM' are the independent variables.

Model Specification

A linear statistical model that explains the relationship between the adoption and implementation of e-banking (Mobile Banking and ATM) and deposit money banks' performance in Kaduna Metropolis is mathematically written as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where;

Y = Bank Performance

X₁ = Adoption/implementation of Mobile Banking

X₂ = Adoption/implementation of ATM

β₀ = Intercept of the model

β₁ = Slope of X₁ (Coefficient of Mobile Banking)

β₂ = Slope of X₂ (Coefficient of ATM)

ε = Random Error Term

Method of Data Analysis

Data analysis in this study was done using descriptive statistics and Ordinary Least Squares (OLS) – multiple regression analysis with the aid of SPSS version 25.0.

Data Analysis and Results

Response Rate Analysis

The 193 respondents in the study were each administered with a copy of questionnaire to fill and return the completed copies. However, only 147 valid completed copies were retrieved from the respondents. This implies that the study achieved a response rate of 75.6 percent, which was deemed reasonable for the researcher to continue with execution of the study. Therefore, a basis of 147 was utilized in conducting data analysis in the study and not 193.

Descriptive Statistics Analysis

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Mobile Banking	147	1	5	3.6444	0.64783
ATM	147	1	5	3.6926	0.68491
Bank Performance	147	1	5	3.8167	0.55425
Valid N (listwise)	147				

Source: Output of Researcher's SPSS Descriptive Statistics, 2021.

Table 2 is the result of the descriptive statistics analysis conducted in this study. The Table shows that the variable – 'Implementation of Mobile Banking' has mean of 3.6444 and standard deviation of 0.6478, while the variable – 'Implementation of ATM' has mean of 3.6926 and standard deviation of 0.648. The Table also shows that the variable - Bank Performance' has mean of 3.8167 and standard deviation of 0.5543. This result clearly shows that ATM has a higher mean than Mobile Banking.

Multiple Regression Analysis

A multiple regression analysis was used in establishing the relationship between the implementation of Mobile Banking, implementation of ATM, and Bank Performance using the Ordinary Least Squares (OLS) technique. Results of this analysis are shown in Table 3, Table 4, and Table 5:

Table 3: Model Summary

R	R Square	Adjusted R Square	Std. Error
0.941	0.885	0.880	0.19181

Source: Output of Researcher's SPSS OLS-Multiple Regression Analysis, 2021.

Table 3 is the model summary Table. The Table shows the coefficient of multiple correlation (R) in the model to be 0.941, which implies that there is 94.1% joint positive relationship between Mobile Banking, ATM, and Bank Performance in deposit money banks in Kaduna Metropolis, Kaduna State. The Table also shows the coefficient of multiple determination (R^2) to be 0.880 to 0.885 ($R^2 = 0.885$ and Adjusted $R^2 = 0.880$). This is an indication that with the model, about 88.0 to 88.5% of the variations in Bank Performance were explained by variations in Mobile banking and ATM, while 11.5% to 12.0% of the variations were unexplained and captured in the model's error term. From the results, it can also be seen that the standard error of the model is 0.1918. Since this value is less than the mean of the variable - 'Bank Performance' (That is, $0.1918 < 3.8167$), it implies that the model is robust and reliable.

Table 4: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	29.080	2	7.270	197.599	.000
Residual	3.790	144	.037		
Total	32.870	146			

Source: Output of Researchers' SPSS OLS-Multiple Regression Analysis, 2021.

The regression ANOVA that shows the overall significance of the multiple regression model in explaining the relationship between the independent variables (Mobile Banking and ATM) and the dependent variable (Bank Performance) using the F-distribution is shown in Table 4. The Table shows that the multiple regression model that explains the relationship between the independent variables (Mobile Banking and ATM) and the dependent variable (Bank Performance in deposit money banks in Kaduna Metropolis is statistically significant at 5% level of significance ($F_{(0.05)(2,144)} = 197.599$, $P < 0.05$).

Table 5: Multiple Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	0.789	.175		4.504	.000
Mobile Banking	0.314	.047	.367	6.709	.000
ATM	0.158	.040	.196	3.970	.000

Source: Researcher's SPSS OLS-Multiple Regression Analysis Output, 2021.

Table 5 shows the multiple regression coefficients of the independent variables and their associated P values. The Table shows that the constant of the model has a positive value

(0.789) which has statistical significance at 5% ($\beta_0 = 0.789$, $t = 4.504$, $P < 0.05$). The implication of this is that if the contributions of the independent variables in the model (Mobile Banking and ATM) were zeros, 'Bank Performance' will still have an average positive value of 0.789.

The model also indicates that Mobile Banking has a positive coefficient which is statistically significant at 5% ($\beta_1 = 0.314$, $t = 6.709$, $P < 0.05$). This implies that a unit increase in the value of Mobile Banking implementation causes an upsurge of 0.314 units in the value of Bank Performance.

The model also indicates that ATM has a positive which is statistically significant at 5% ($\beta_2 = 0.158$, $t = 3.970$, $P < 0.05$). This implies that a unit increase in the value of ATM implementation causes an upsurge of 0.158 units in the value of Bank Performance.

Based on the above explained results, it implies that the estimated OLS-multiple regression equation that explains the nexus between the independent variables (Mobile Banking and ATM) and the dependent variable (Bank Performance) in Kaduna Metropolis is given as:

$$\text{Bank Performance} = 0.789 + 0.314\text{MB} + 0.158\text{ATM} + \varepsilon$$

Where;

MB = Implementation of Mobile Banking

ATM = Implementation of ATM

ε = Error term

Discussion of Findings

Findings from the study showed that a significant positive nexus exists between electronic banking (Mobile Banking and ATM) and deposit money banks performance in Kaduna Metropolis. This finding is in agreement with the finding of Amaduche et al. (2020) whose study found that electronic banking had a significant positive relationship with deposit money banks' operations and performance in Nigeria. This discovery also supports that of Musa et al. (2015) whose study revealed that electronic banking had significant positive relationship with Nigerian banks' performance.

Discovery from the study also revealed that Mobile Banking implementation had significant positive effect on deposit money banks' performance in Kaduna Metropolis of Kaduna State. This finding supports the findings of Asidok and Michael (2018), Obiekwe and Anyanwaokoro (2017), and Oladeo (2016) whose individual studies found mobile banking to significantly positively influence the profitability of commercial banks in Nigeria. The finding is however, inconsistent with the finding of Olaiya and Adeleke (2019) whose study revealed that mobile banking had insignificant negative relationship with the bank's performance.

Discovery from the study also showed that implementation of ATM had significant positive impact on deposit money banks' performance in Kaduna Metropolis of Kaduna State. This finding corroborates the discovery of Asidok and Michael (2018), Obiekwe and Anyanwaokoro (2017), and Oladejo (2016) whose individual studies revealed ATM to

significantly positively influence the profitability of banks in Nigeria. The finding is however, inconsistent with the finding of Olaiya and Adeleke (2019) whose study revealed that ATM had positive and insignificant nexus with banks' performance in Nigeria.

Conclusion

In conclusion, electronic banking has significant positive relationship with deposit money banks' performance in Kaduna Metropolis of Kaduna, with Mobile Banking and ATM having significant positive effects the banks' performance, respectively.

Recommendations

With respect to the discovery of this study, the following recommendations are proffered:

1. The management of deposit money banks in Nigeria should continually improve the quality and efficacy of e banking services so as to encourage customers to utilize them in carrying out their banking transactions, as this has the propensity of generating more income for the banks; hence improving their performance.
2. Deposit money banks should improve and sustain the quality of mobile banking services in order to encourage their customers to utilize this channel in carrying out their banking transactions in order to attain a cashless economy in Nigeria as almost all businesses and banking transactions are conducted cashless, globally.
3. Deposit money banks should deploy ATM delivery points at strategic locations in neighbourhoods outside the banks' premises for customers' utilization. This will help in enhancing the service delivery of the banks as well as generate more income for them; thereby, improving their performance.

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