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Cashless Banking and Performance of Deposit Money Banks

Ifeyinwa Chinyere Arinze-Emefo*, Umar Abbas Ibrahim

Department of Business Administration, Faculty of Management Sciences, Nile University of Nigeria, Abuja, Nigeria
Email: *Icemefo@gmail.com

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Abstract

Cashless banking has gained popularity over the years, with the increasing adoption of digital payment methods, such as mobile payments, internet banking, and electronic fund transfers. This trend has significant implications for the banking industry, particularly deposit money banks, which rely on deposits as a primary source of funding. The purpose of this study is to examine the relationship between cashless banking and the performance of deposit banks. The study employs a quantitative research method. The quantitative component involves the use of secondary data from financial statements of deposit banks for a period of five years (2016-2020). The financial performance indicators to be analyzed include return on assets (ROA), return on equity (ROE), net interest margin (NIM), and cost-to-income ratio (CIR). The data collected from the quantitative components was analyzed using thematic statistical techniques. The findings will provide insights into the impact of cashless banking on the performance of deposit banks and the factors that influence this relationship. The study's results will be useful to deposit banks, policymakers, and other stakeholders in the banking sector as they make decisions on the adoption and implementation of cashless banking.

Keywords

Cashless Banking, Deposit Money Banks, Performance, Automated Teller Machine, Point of Sale

1. Introduction

The banking industry has continued to evolve overtime as a result of the dynamic and turbulent environment upon which it operates, and the quest for effective and efficient payment system. Banks all over the world have continued to leverage on financial technology to meet the changing demands it faces, and

conflicting stakeholders' interest. The cashless banking policy is one of such technological innovations adopted in response to both internal and external pressures banks face. Cashless banking is not the complete absence of cash. It is an economic setting in which goods and services are bought and paid for through electronic media (Muotolu et al., 2019).

A review of the literature exposes variant definitions of cashless banking. What is common to all definitions is that cashless banking is not the outright and complete elimination of cash as basis for payment. It is a reduction of cash to the barest minimum (Matthew & Mike, 2016; Taiwo et al., 2016). Cashless banking originated from the western world, and over time is spreading to developing countries. Evidently, the existing body of knowledge on the subject of discuss shows that developing Countries are catching in on the bug (Moudud-Ul-Huq & Hossain, 2020; Halima & Wepukhulu, 2020; Ahmed & Wamugo, 2019; Said & Kaplelach, 2019; Odhiambo & Ngaba, 2019; Adaramola & Kolapo, 2019; Yusuf et al., 2019; Orji et al., 2018; Harelimana, 2018, Njoroge & Mugambi, 2018). The cashless banking policy was conceived in Nigeria in 2011 and implemented in January 2012. A pilot test was run in six states of the Federation after which it was fully adopted across all the states of the Federation (Izogo et al., 2019). Despite the growing interest in cashless banking and its potential to improve the performance of deposit money banks, there is still a research gap in understanding the relationship between cashless banking and bank performance. Although some studies have examined the impact of cashless banking on bank performance, they have focused on specific aspects such as mobile banking or payment systems. More research is needed to explore the relationship between cashless banking and the overall performance of deposit money banks using a mixed-method research design that combines quantitative and qualitative data collection and analysis methods. Additionally, recent studies suggest that factors such as regulatory frameworks and the level of financial inclusion may moderate the relationship between cashless banking and bank performance, highlighting the need for further investigation in these areas.

Early research carried out in this regard proposed amongst others, increased efficiency and cost reduction as few of the benefits of adopting the cashless banking policy. The anticipation of cost reduction as one of the key prospects of the cashless banking policy suggests that all the benefit of cashless policy would ultimately improve bank's performance, in terms of profitability. The cashless banking policy has received a lot of attention in Nigeria. Records show that there has been an increasing uptake of these facilities. Notably, studies have been undertaken to evaluate its effect on bank performance. This study is one of such studies that aim to understand the effect of cashless banking policy on the performance of deposit money banks in Nigeria. Deposit money banks offer services to the public and companies. As at the time of this study, Nigeria has thirteen listed deposit money banks with branches operating in various states of the Federation. The scope of the study includes all the six geopolitical zones of the

country and the thirteen listed deposit money banks in Nigeria.

The overarching objective of the study was broken down to formulate 3 hypotheses stated in the null as thus:

H_{01}: There is no significant relationship between Automated Teller Machine (ATM) and Return on Assets (ROA) of Deposit money Banks in Nigeria.

H_{02}: There is no significant influence of Point of Sale (POS) on Return on Assets of Deposit money Banks in Nigeria.

H_{03}: There is no significant impact of Mobile Banking on Return on Assets of Deposit money Banks in Nigeria.

Overtly, the objective of the study is to explore the relationship between cashless banking (ATM, PoS and mobile banking) and the performance of Deposit money Banks. More precisely, the financial measures of bank performance were selected; return on assets (ROA). As reflected above, the three hypotheses explored the relationship between ATM, PoS and mobile banking and the financial measure of performance (ROA) of deposit money Banks in Nigeria.

The remainder of this study will be conducted in this order: Section 2 discusses the literature on cashless banking policy and bank performance. Section 3 describes the methodology employed in the study. Section 4 focuses on the findings. Finally, section 5 weighs in on conclusion and recommendations.

2. Literature Review

Cashless banking

Also referred to as cashless society, cashless policy, cashless system and cashless economy is one of the notably ICT driven initiatives of the banking industry. Whilst previous studies used one or a combination of these terms in different times and climes to mean one and the same thing, these terms will be used interchangeably in the course of this study. Cashless banking is a state of affairs whereby financial transactions are not conducted with money in the form of physical banknotes or coins, but rather through the transfer of digital information (usually an electronic representation of money) between the transacting parties (Akhalumeh & Ohiokha, 2012). Overtime and across borders, the definition of cashless banking has remained the same; Kamboh and Leghari (2016) describes it as the execution of financial and banking transactions without the use of banknotes, bills or coins but rather involves the use of credit and debit cards, telephonic and electronic transfer of fund, internet and mobile banking. Recently, Datta (2021) defined cashless transactions as transactions that happen through the use of ATM, Debit or credit card, EFTs, and other mediums that do not require physical form of cash. According to Mamudu and Gayovwi (2019), the convenience and efficacy associated with electronic payment are of immerse benefits to any economy regardless of its level of development; it also comes with a lot of cost. From the production and minting of cash to circulation till its gets to its final user and then recycled; and of course the activities such as processing and counting, transportation and storage these activities come with a lot of cost

burden that run into millions of Naira. These cost when compared to the fixed cost associated with electronic system installation that are nonrecurring and one off explains how cost laden an economic state where there is an absence of cashless banking is.

Cashless banking has been celebrated for its role in inhibiting informal economy, reducing cost associated with cash handling, mitigating against cash related crimes, cash stockpiling by politicians, theft, corruption, money laundering and funding for terrorism, driving financial inclusion and curbing the circulation of counterfeit money (Obafemi & Araoye 2020; Yakean, 2020; Kumar, 2017; Ezuwore-Obodoekwe, 2014; CBN, 2011).

Critiquing cashless banking, Taiwo et al. (2016) provided a superior argument that explained the vulnerability of the credit and debit cards to fraud, the crippled power and electricity supply in Nigeria, the level of literacy and exposure of users to internet facilities, and the state of support facilities and infrastructures, which are key issues to consider when implementing cashless banking. Galadima et al. 2012 opined that although the benefits of cashless policy on the Nigerian economy are evident and cannot be underestimated, it appears relevant supporting conditions necessary for its effective take-off were not in place.

The key instruments that are used to achieve cashless banking include the automated teller machine (ATM), point of sales terminal (PoS), internet banking, mobile banking, bank cards (credit and debit cards), NIBSS instant payment (NIP), NIBSS electronic funds transfer, E-billspay. For the purpose of this study, the researcher focused on the ATM, PoS and mobile banking as proxies for cashless banking because they are the oldest channels of cashless banking and they enjoy wide acceptance from the public.

Automated Teller Machine: Anyanwu and Anumaka (2020) & Ikpefan et al. (2018) defines the ATM as a computer-enhanced machine that permit bank customers to carry out bank transactions such as cash withdrawal, balance inquiry, funds transfer, and phone airtime top-up. ATM could be said to be an electronically enabled banking hall set up at various points outside the physical banking halls of banking institutions. Usually located in public places and in the enclosure of banks, the ATM serves as a cash point for cash withdrawal and deposit (Skvarciany et al., 2019) and functions as an electronic teller representative that can be compared to individuals found in banking halls. Not being situated within the confines of a banking hall affords customers the opportunity to carry out banking transactions beyond banking hours (Nwankwo et al., 2021). This saves time in service delivery and customers utilize the time saved for other productive activities (Tahir et al., 2018).

Automated teller machines afford customers the convenience of consummating basic transactions without coming in contact with branch representative or teller. Such that anyone with a credit or debit card can access any ATM and perform most of the transactions that could have been carried out in the banking hall with the assistance of a teller representative (Muotolu et al., 2019). By slot-

ting in a debit card or credit card and successfully completing pin verification, an individual is then able to access the variety of services deliverable by an ATM. The convenience associated the ATM affords bank consumers a platform to perform fast, self-serve transactions. Orji et al. (2018) opines that the increasing volume and value of ATM transactions should enhance the payment system and in turn, lead to bank performance. This may not be unconnected to Le and Ngo (2020) assertion that an increase in the number of ATMs would ultimately have an effect on economic growth.

Besides being one of the oldest e-banking channels, the ATM may have derived its popularity from its cash dispensary function, some ATMs allow for cash deposit. Although the strength of the ATM over other channels lies in its ability to allow individuals' access to cash withdrawal and deposit at all times, without a visit to the banking hall. Thereby, reducing frequent visit to the banks and the need for people to move about with cash, the CBN approved N55 as income to the bank from the 4th transaction done by the cardholder of another bank's card on the ATM terminal is another source of income to the banks attributable to cashless banking (Muotolu et al., 2019). However, this additional cost borne by banks' customers may have a negative effect on customers' inclination to use the ATM.

Point of Sale Terminal: is an electronic device that facilitates payment for goods and services (Muotolu & Nwadialor, 2019). A point-of-sale (POS) terminal could be seen as an electronic replacement for a cash register which processes credit and debit cards. Muotolu & Nwadialor, 2019 defines the POS terminal as an electronic device that facilitates payment for goods and services. The adoption of Point of Sale (POS) Terminal by businesses is expected to ease and reduce the burden associated with financial transaction and also improve their general performance (Ogunsuyi & Tejumade, 2021). Evidently, Suleymanov et al. (2019) attests that the PoS brings significant advantages to customers in the delivery of existing products. Despite the significant role of the PoS terminal in a cashless setting, it still comes with some form of cost such as the special charges for the use of the PoS terminal that could be avoided if a transaction was cash based, this cost may be too high for some banks and their customers (Nwankwo et al., 2021). They added that 1.25% charge on every transaction executed via POS terminals may be considered over-burdensome on deposit money bank customers given that this will not prevent nor reduce the usual commission on turnover charged by banks on withdrawals. This amounts to an additional charge on the part of the bank customer, which would not have been incurred on a cash-based transaction

GSM/Mobile banking: is a mode of cashless banking that primarily incorporates the use of mobile telecommunication devices such as mobile phones and tablets as conduits for accessing financial and banking services. Mobile banking has emerged to be one of the most promising technologies in recent years that has the potential to be of immense benefit to both banks and customers (Shareef

et al., 2019). Ajayi (2014) defined it as the exploitation of the features of a mobile telecommunication device to render services that would have ordinarily be done in the banking hall. Agreeing, Sakpaide and Ibubune (2014) added that mobile banking is the utilization of mobile phone technology supported by telecommunication services for the provision of banking services. Furthermore, Shaikh and Karjaluoto (2015) defined M-banking as an innovation that establish a communication channel or link between the customer and the bank through a portable handheld device Mobile banking has widespread acceptance and usage, and bank customers are excited to use it for financial and banking services given the low infrastructure requirement (Matthew & Mike, 2016). The features embedded in mobile phones allow it to be used to carry out basic banking functions such as balance enquiry, viewing their bank statements, initiate transfers, and even carry out prepaid service purchases. Internet enabled mobile phones on the other hand are used to perform more sophisticated transactions such as NEFT, NIP. This perhaps explains why it's widely accepted by users.

The launch of Global System Mobile (GSM) services in Nigeria in 2001, led banks in Nigeria to provide mobile banking services that allow customers carry out simple transactions based on SMS with customers' handheld mobile phone device serving as the terminals (Ezuwore-Obodoekwe, 2014). Mobile banking allows people to perform bank transactions anytime and anywhere (Chin et al., 2018; Alonso-Dos-Santos et al., 2020; Shankar & Rishi, 2020; Al-Tarawneh, 2016). Zhang and Kizildag (2018) referred to the mobile banking technology as banking on the go, as it affords customers the opportunity to be on the move and utilize their devices to perform financial activities without the limitations associated with traditional banking and other channels of cashless banking such as the atm and internet banking.

Services covered by mobile banking are broadly classified under SMS-based or web-based, they include simple services such as sending fraud alert notifications or usage activity to a client's cell phone, account enquiry; funds transfer; bill payments recharge phones; changing password and more complex services such as viewing transactions, transferring funds respectively (Veríssimo, 2016; Hayikader et al., 2016; Kim & Baek, 2018; Zhang & Kizildag, 2018; Shareef et al., 2018; Sharma & Sharma, 2019; Hamidi & Safareeyeh, 2019; Hassan & Wood, 2020; Shankar & Rishi, 2020; Geebren et al., 2021). Mobile banking has progressively rendered itself for multiple uses across several sectors of the economy and has advanced from a tool for mere text messaging to that of pseudo internet banking where customers could perform an array of banking transactions.

The mobile phone, as an innovation has been widely embraced by a large percentage of the adult population and has provided even those in the rural area, a readily available and cost-effective platform to perform financial and banking transactions. Contrary to the perception of wide acceptance and usage of mobile banking by all and sundry, Choudrie et al. (2018) argued that given the high lev-

el of acceptance, older adults and disabled individuals remain behind as it concerns adoption and utilization of the service.

Emphasizing on how the COVID 19 pandemic has made the use of use of technology essential, Okereke and Ofierohor (2021) articulates how prior to the advent of technology, the banking hall was known to be always congested with people trying to make various enquiries and initiate various transactions. The banking halls have progressively witnessed less crowd since the advent of cashless banking policy. There is a need for the DMBs and CBN to reduce transaction cost on ATM, POS and mobile transfers in order to avoid a reversal to congested banking halls and to retain existing customers and attract prospects without jeopardizing profitability (Okereke & Ofierohor, 2021).

***Performance*:** According to Carton (2004), performance is multi-dimensional, meaning it has different dimensions, and one way to conceptualize performance as a multi-dimensional is to treat value creation as an unobservable second-order, hierarchical construct. Venkatraman and Ramanujam, (1986) cited in Carton (2004) opines that "such a construct would be derived from financial, operational, and stakeholder first-order constructs. The first order constructs are measured by specific indicators". Agreeing, Kaplan and Norton (1996) explained that performance is a contextual concept associated with the phenomenon being studied and looks at not just how much profit an organization makes but also measure the success of what impacts the bottom line. In the context of organizational financial performance, performance is a measure of the change of the financial state of an organization, or the financial outcomes that results from management decisions and the execution of those decisions by members of the organization. Ironically, there is no generally accepted definition of business performance because it is a complex and multidimensional concept (Kumar et al., 2017).

Until recently, performance in banking was measured through cost reduction, quality of goods and service, and time, thus highlights production orientation in banking (Akhalumeh & Ohiokha, 2012). During this era and as emphasized in the "triple constraint", a policy is said to be successful if a product or service is delivered at the right time, for the right price and quality (Baddeley, 2004). Banking affiliates strongly with customer orientation where goods and service delivered by the banks is tailored to meet customers' needs. Most organizations today are customer centered. Corporate managers are proactive in deploying services that would endear customers to them knowing that repeated custom has the potential of improving service delivery and performance of banks.

A review of literature shows researchers have employed earnings before interest, tax, depreciation and amortization (EBITDA), pre-interest earnings and taxes (EBIT), return on capital employed (ROCE), return on assets (ROA), return on equity (ROE), earnings per shares (EPS) and invested capital performance (Chang

et al., 2010), market-based measures: company stock dividend and tobin's q ratio, to measure performance (Muotolu et al., 2019; Okon & Amaegberi, 2018; Ibikunle & James, 2012; Olorunsegun, 2010). This study measured deposit money banks' performance using return on assets (ROA) (**Figure 1**).

The proxies of cashless policy refer to indicators that can be used to measure the level of cashless transactions and the adoption of cashless policies by individuals and businesses. Some of the commonly used proxies for cashless policy include the volume of electronic payments, the number of point-of-sale (POS) terminals, mobile money transactions, and online banking activities. Other indicators include the use of debit and credit cards, the level of cash withdrawals from Automated Teller Machines (ATMs), and the adoption of digital payment platforms such as PayPal, Venmo, and Apple Pay. The use of these proxies can help to track the progress of cashless policies and their impact on the performance of deposit banks.

3. Methodology

The study employed the quantitative method of research. The ex-post factor research design was adopted for the study. Secondary data was obtained from the

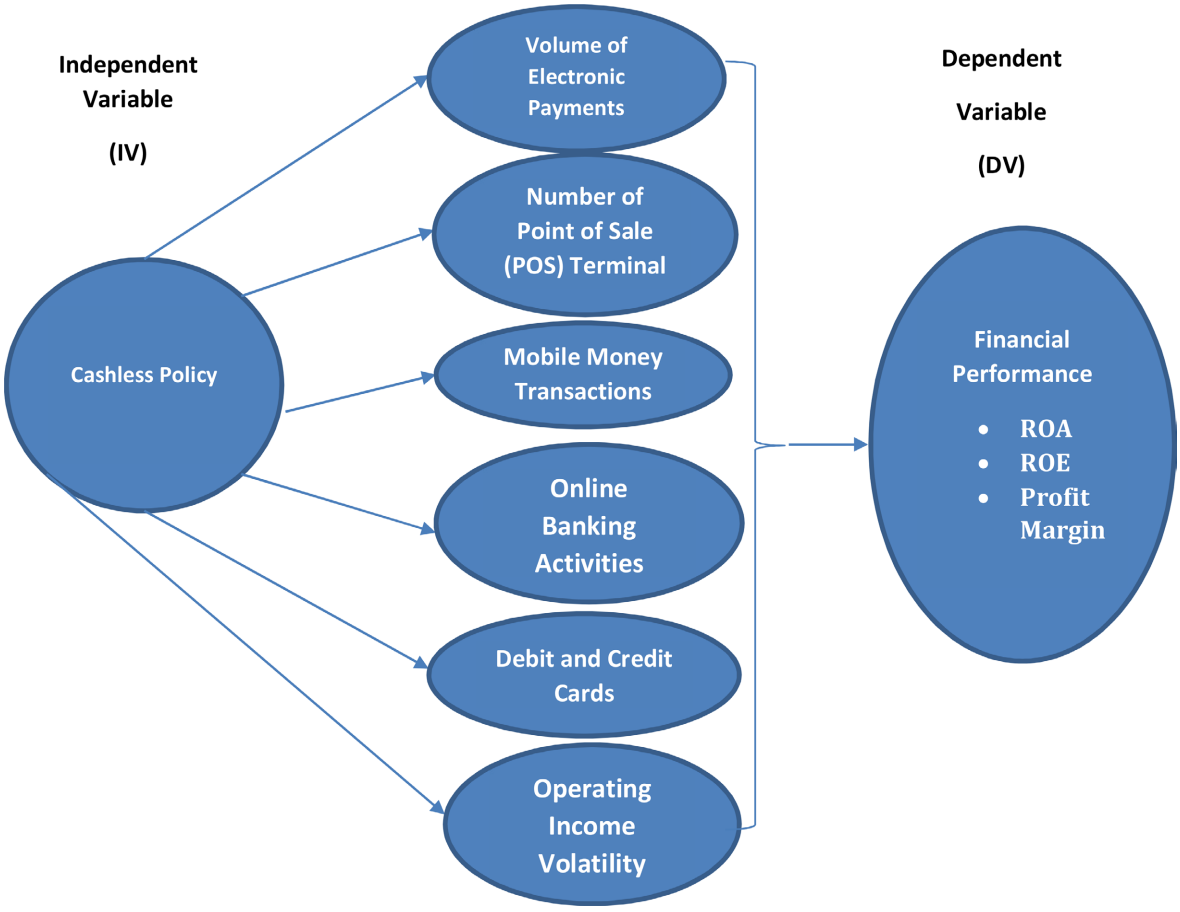

Figure 1. Relationship between the independent variable and dependent variable.

thirteen (13) listed deposit money banks operating in Nigeria from their statements of financial positions. The thirteen (13) listed deposit money banks operating in Nigeria make up the population and the sample size for the study.

The study's dependent variable is measured by return on assets (ROA) and instruments used to measure cashless banking policy are the independent variables, they include ATM, PoS and mobile banking. Data for these variables for the thirteen (13) listed deposit money banks operating in Nigeria was collected from the Central Bank of Nigeria (CBN) statistical bulletin. The least square regression technique was used for analysis assisted by SPSS.

Model Specification to analyze the Relationship between Cashless Banking and Financial Performance (Return on Assets)

The researcher proposes the following multiple regression model for the secondary data regarding the financial performance of the bank:

$$h_t = \alpha_0 + \alpha_1 x_{1t} + \alpha_2 x_{2t} + \alpha_3 x_{3t} + \mu_t$$

where:

h_t = Banks performance ([ROA] dependent variable)

α_0 = the constant variance (mean)

$\alpha_{1\text{-}3}$ = coefficients of the cashless systems variables ((Automated Teller Machine (ATM), Point of Sale (POS) and Mobile Banking (M-Banking)).

μ_t = error term

t = time subscript

4. Results

The analysis was inferential in nature, data collected from secondary sources to analyze the relationship between the independent variables (ATM, PoS and mobile banking), and financial (ROA) bank performance were compiled and organized using MS word software. Further analysis was conducted using least square method assisted by SPSS software. Pre and post diagnostics test were conducted. As part of the diagnostic test, a correlation analysis to study the relationship between variables was conducted. Other diagnostics tests to test for stationarity and auto correlation were conducted.

Test of Hypotheses

Three hypotheses were formulated to test the relationship between ATM, PoS and mobile banking, and the financial performance (ROA) of commercial banks. The estimated results of the ordinary least square equation in the model are presented in Table 1 below.

Hypothesis 1

H_{01}: There is no significant relationship between Automated Teller Machine (ATM) and deposit money banks in Nigeria's Return on Assets.

The model's parameter estimates results suggest that changes in ATM volume has negative effect on the commercial banks performance (ROA). This implies that a percentage increase in ATM volume results in 3.5% decrease to the banks

Table 1. Results of the OLS Model.

Model 1: OLS, using observations 2012:1-2019:4 (T = 32)
Dependent variable: ROA

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	48.654	6.13586	7.9295	<0.00001	***
ATM	−0.00348702	0.00747915	−0.4662	0.64466	
POS	0.00514379	0.0179888	0.2859	0.77703	
MB	0.0104273	0.00842035	1.2383	0.22587	

Mean dependent var	48.97805	S.D. dependent var	9.348268
Sum squared resid	2054.688	S.E. of regression	8.566313
R-squared	0.241559	Adjusted R-squared	0.160297
F (3, 28)	2.972610	P-value(F)	0.048672
Log-likelihood	−112.0003	Akaike criterion	232.0007
Schwarz criterion	237.8636	Hannan-Quinn	233.9441
Rho	0.437321	Durbin-Watson	1.113715

performance (ROA), and this is not statistically significant at 5% level because its probability value (0.64466) is greater than (0.05) 5% level of significance. Hence the hypothesis that "There is no significant relationship between Automated Teller Machine (ATM) and commercial Banks in Nigeria's Return on Assets" is not rejected.

Hypothesis 2

H_{02}: There is no significant effect of Point of Sale (PoS) on Return on Assets of deposit money banks Nigerian Banks.

Similarly, the result on POS shows that it has positive impact and although not statistically significant on banks performance (ROA) at 5% level, because its probability value is 0.7703. This also implies that the null hypothesis "there is no significant impact of Point of Sale (POS) on Return on Assets of Nigerian Banks" is not rejected.

Hypothesis 3

H_{03}: There is no significant impact of mobile banking on Return on Assets of deposit money banks in Nigeria.

Mobile banking coefficient is 0.0104273, which implies that it has a positive impact on commercial bank performance (ROA). However, a unit change in mobile banking volume will not significantly impact on banks performance ROA since the p-value of 0.226 is greater than 0.05 (5%) level of significance.

The model performance statistics of the results reveal that the R squared value is 0.242, which implies only about 24% relationship exist jointly among the variables. Furthermore, implying that the independent variables are only explaining about 24% of ROA, leaving 76% to other extraneous variables not captured

in the model.

Summary of the overall Hypothesis findings

From the analyses conducted, three of the postulated hypotheses are rejected with details as follows:

SN	Performance	Hypothesis	level of significance	Conclusion	Type of relationship
1		H_{01}: There is no significant relationship between Automated Teller Machine (ATM) and Banks' Return on Assets.	5% Level of sig.	Accepted	Negative
2	Financial	H_{02}: No significant impact of Point of Sale (POS) on Return on Assets of Nigerian Banks.	5% Level of sig.	Accepted	Positive
3		H_{03}: Mobile Banking has no significant impact on Return on Assets of Nigerian banks.	5% Level of sig.	Accepted	Positive

Source: Researchers' compilation.

5. Discussion

Results from the analysis shows there is no significant relationship between ATM and Return on Assets of deposit money banks in Nigeria. Furthermore, the model's parameter estimates suggest that ATM has a negative effect on the ROA of commercial banks in Nigeria. This finding corroborates recent studies in Nigeria by Nwakoby et al. (2020) and Nweze et al. (2017) that reported an insignificant relationship between ATM, and ROE and ROA of commercial banks in Nigeria. Furthermore, and given a difference in region, Kamboh and Leghari (2016) and Valahzaghard and Bilandi (2014) found that the ATM was negatively significant to ROE in Pakistan banks, and profitability of Iranian banks respectively. On the contrary, this finding disagrees with studies conducted in Kenya, Narobi, Kigali and Lebanese by Odhiambo and Ngaba (2019); Ahmed and Wamugo (2019); Mutisya and Atheru (2019) and Njoroge and Mugambi (2018); Harelimana (2018); Vekya (2017); Sujud and Hashem (2017); Kamau and Oluoch (2016) that reported the ATM was positively significant to the ROE and ROA of banks. Studies in Nigeria also found the ATM to be significant to the ROE of banks (Akara & Asekome, 2018; Eze & Egoro, 2016; Morufu, 2016).

Similarly, the model's parameter estimate coefficient of 0.00514379 and probability value of 0.7703 indicates that PoS has a positive effect on the ROA of commercial banks in Nigeria and is not statistically significant on the commercial bank's ROA. The implication is the PoS does not affect the ROA of commercial banks in Nigeria. This finding supports recent studies in Nigeria by Mu-

otolu et al. (2019); Frank and Binaebi (2019); Obiekwe and Anyanwaokoro (2017); Christian and Igwebuike (2016); and Ugwueze and Nwezeaku (2016). On the other hand, this finding disagrees with studies of Nwakoby et al. (2020); Okafor (2020); Akara and Asekome (2018) and Alagh and Emeka (2014) that reported a significant but positive relationship between the PoS and ROE of banks in Nigeria. Similarly, Yusuf et al. (2019) found a significant positive relationship between the PoS and liquidity ratio of commercial banks in Nigeria. Furthermore, studies conducted in other developing Countries; Vekya (2017), in Kenya; Sujud and Hashem (2017) in Lebanese; and Kamboh and Leghari (2016) in Pakistan reported a significant relationship between the PoS and bank performance Further into the analysis, parameter estimates revealed an insignificant positive relationship between mobile banking and ROA of commercial banks in Nigeria. This implies that a unit change in mobile banking volume will not significantly impact on banks performance ROA since the p-value of 0.226 is greater than 0.05 (5%) level of significance. This finding corroborates the work of Muotolu et al. (2019) who found insignificant positive relations between mobile banking and ROA of banks in Nigeria. Similarly, in Kenya, Mutisya and Atheru (2019) equally reported an insignificant positive relationship between mobile banking and ROE of banks in Kenya. Contrary to this study however, recent studies in Nigeria reports otherwise (Okafor, 2020; Nwakoby et al., 2020; Yusuf et al., 2019). Furthermore, and given a difference in the proxy used to depict bank performance, this finding negates previous studies conducted in Kenya (Halima & Wepukhulu, 2020; Odhiambo & Ngaba, 2019; Said & Kaplelach, 2019; Ahmed & Wamugo, 2019; Njoroge & Mugambi, 2018; Kamau & Oluoch, 2016; Kathuo et al., 2015); in Rwanda (Harelimana, 2017) and Pakistan (Kamboh & Leghari, 2016). Studies in Nigeria also found that mobile banking had a significant impact on the performance of banks (Farouk et al., 2013; Obiekwe & Anyanwaokoro, 2017).

The study found that each of the individual independent variables do not significantly affect the ROA of commercial banks, similarly, the model performance statistics of the results reveal that the R squared value is 0.242 which suggests that the cashless system variables only explain about 24% variation of the performance ROA, leaving 76% to other extraneous variables not captured in the model. Ironically, Nweze et al. (2017) noted that the cashless policy is not a policy geared towards enhancing bank performance in terms of profitability specifically, they added that Nigerian banks should utilize the benefits of the cashless policy and engage in efficient financial intermediation for enhanced bank performance; specifically, profitability.

The reason for unimproved returns may be attributable to the high cost of deployment and maintenance of equipment, software and training of personnel. Electronic banking is cost intensive and may improve profitability performance in future if there is increased up take by a larger population, reduced incidence of banking fraud caused by electronic facilities, and a larger percentage of the

unbanked and under-banked are brought on board the financial inclusion network. The study encourages the use of cashless policy instrument based on its benefits to the banks, customers and the regulatory authorities.

To the Policy makers, banks and the Nigerian government, more awareness and sensitization campaign should be launched to extend the use of these platforms beyond where it has popularity and has been accepted by a majority of the populace. Notably the financially excluded population should be brought on board to increase the number of people utilizing these platforms.

Implications—Practical and Theoretical

Implications of the study on "Cashless Banking and Performance of Deposit Money Banks" can be both practical and theoretical. Practically, the study can help policymakers and managers of deposit money banks to better understand the impact of cashless banking on their performance (Adeleye, 2022). They can use this knowledge to make informed decisions about their investment in cashless infrastructure and to design strategies to enhance the adoption of cashless banking (Williams, 2023). The study's findings may also inform the development of regulatory policies and incentives that can promote cashless transactions and improve financial inclusion.

Theoretically, the study contributes to the literature on cashless banking by highlighting the relationship between cashless policy and the performance of deposit money banks. The findings provide empirical evidence that can advance the understanding of the role of cashless policy in the financial sector, especially in developing economies (Ashiru et al., 2023). This research can further inspire future research in the field of financial innovation and technology. Overall, the study's implications can offer valuable insights to stakeholders and researchers alike, with practical and theoretical implications that can inform decision-making, policy-making, and further research.

Limitations of the Study

There are several limitations to this study on the relationship between cashless banking and the performance of deposit money banks.

Firstly, the study focuses solely on deposit money banks and does not include other financial institutions such as microfinance banks, credit unions, and non-bank financial institutions. Thus, the generalization of the study findings to these institutions may be limited.

Secondly, the study uses data from a specific country or region, which limits the generalizability of the findings to other regions or countries with different economic, regulatory, and demographic characteristics.

Thirdly, the study does not account for the potential effects of other factors that may influence the performance of deposit money banks, such as technological advancements, economic policies, and market competition.

Finally, the study relies on secondary data sources such as financial statements, annual reports, and published research papers, which may have limitations in terms of accuracy and reliability.

Despite these limitations, this study contributes to the existing literature on cashless banking and the performance of deposit money banks, providing insights for policymakers, deposit money bank managers, and researchers. Future studies may consider addressing the limitations of this study to improve the generalizability and validity of the findings.

6. Conclusion

The study, which examined the effects of Nigeria's cashless economy, carefully focused on statement of financial positions of deposit money banks in Nigeria. The study placed special emphasis on the sample's high proportion of performing DMBs. The results of this study emphasize how cautious it was to adopt the cashless economy paradigm in Nigeria. Its deployment is anticipated to signal a promising course. The upgrading of Nigeria's payment system, noticeable cost savings for banking services, and a significant reduction in elevated security threats are all anticipated effects. This paradigm shift also has the potential to address the critical issue of preventing corruption in the financial industry and promoting a transparent culture.

Additionally, it is predicted that the implementation of the cashless policy in Nigeria will have the positive effect of reducing the amount of paper money in circulation. This logical result ought to lead to a decrease in the operating costs associated with processing traditional currencies. This change also has the potential to reduce cases of illegal activity involving currencies. Additionally, it is intended to make it easier for Nigerians to acquire banking services.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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