

**CBN CASHLESS POLICY AND FINANCIAL PERFORMANCE OF DEPOSIT MONEY BANKS
IN NIGERIA: *Evidence from Internet Banking***

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ABSTRACT

This study examines the effect of the Central Bank of Nigeria's (CBN) cashless policy on the financial performance of deposit money banks in Nigeria, focusing specifically on the Internet Banking (IB) electronic banking channel. The study is guided by two specific objectives, namely: to ascertain the relationship between Internet Banking and Return on Assets (ROA), and to investigate the relationship between Internet Banking and Earnings per Share (EPS). Anchored on the Diffusion of Innovation Theory and the Technology Acceptance Model, the study adopted an ex-post facto research design using secondary data extracted from the audited annual reports of ten deposit money banks listed on the Nigerian Stock Exchange over the period 2012 to 2019. Simple linear regression analysis was used to test two null hypotheses at the 5 percent level of significance. The findings reveal that Internet Banking exhibits a negative and statistically insignificant relationship with ROA, but a positive and statistically insignificant relationship with EPS. Neither of the two hypothesised relationships was found to be statistically significant at the 5 percent level, suggesting that, within the period reviewed, the internet banking channel is yet to translate into measurable improvements in the profitability of Nigerian deposit money banks. The study concludes that the financial-performance benefits of the internet banking channel remain latent rather than realised, and recommends improved digital infrastructure, network reliability, and sustained public enlightenment to strengthen its contribution to bank profitability.

Keywords: Cashless Policy, Internet Banking, Return on Assets, Earnings per Share, Deposit Money Banks.

INTRODUCTION

A cashless policy is a policy framework designed to reduce the volume of physical currency in circulation within an economy by promoting electronic alternatives such as direct debit, mobile payments, electronic funds transfer, internet banking, Automated Teller Machines (ATMs), and Point of Sale (POS) terminals. In simple terms, it entails the pervasive application of computer and telecommunications technology to financial transactions. The Central Bank of Nigeria (CBN) introduced the cashless policy in Lagos State in January 2012, before extending it to Rivers, Anambra, Abia, Kano, Ogun, and the Federal Capital Territory in July 2013, and eventually rolling it out nationwide in July 2014 (Moses-Ashike, 2020). The policy does not seek to eliminate cash entirely, but to keep cash-based transactions to the barest minimum through daily cumulative withdrawal and lodgement limits, currently set at N500,000 for individuals and N3,000,000 for corporate customers.

Of the several electronic channels introduced under the policy, Internet Banking (IB) allows customers to conduct banking transactions entirely online, without visiting a banking hall. The policy

anticipates that, rather than making large cash withdrawals, individuals and businesses will retain funds within the banking system and settle payments through electronic instruments such as internet banking platforms (Azeez, 2018). Proponents associate the cashless policy with reduced corruption, lower cost of banking services, improved operational efficiency, deeper financial inclusion, and more effective monetary policy transmission (Atanda & Alimi, 2018; Lamikanra, 2019). At the same time, the shift to electronic channels raises new risks, including cybercrime, data breaches, and online fraud, which pose challenges for both regulators and deposit money banks (Ovat, 2017).

Deposit money banks occupy a central position in the allocation of financial resources within an economy, mobilising surplus funds and channelling them to deficit units for productive investment (Ongore, 2018; Otuori, 2018). Following the 2005 recapitalisation exercise, which raised the minimum capital base of Nigerian banks to N25 billion, the industry recorded substantial growth: between 2016 and 2019 alone, total deposit liabilities grew by 65 percent, total assets by 148 percent, loans and advances by 225 percent, and shareholders' funds by 192 percent (Moses-Ashike, 2020). Within this context of rapid digital transformation and balance-sheet growth, the question of how internet banking specifically relates to bank profitability becomes an important one for both practice and policy.

Financial performance is generally understood as a measure of how efficiently a firm uses its assets to generate revenue and, ultimately, shareholder value. Following Devinaga Rasiah (2020), this study adopts two commonly used indicators of bank financial performance: Return on Assets (ROA), which captures how efficiently management converts total assets into earnings, and Earnings per Share (EPS), which captures the profit attributable to each unit of common stock outstanding. This study investigates the extent to which internet banking, one of the cashless policy's most visible electronic channels, is associated with these two performance indicators among Nigerian deposit money banks.

Statement of the Problem

Despite the CBN's considerable investment in cashless infrastructure and the corresponding investment by deposit money banks in information and communication technology, the adoption of internet banking by Nigerians has remained comparatively slow. Akara and Asekome (2018) attribute this to financial illiteracy, unreliable power supply, and limited trust in non-cash payment systems. EFINA's 2013 Access to Financial Services survey found that only 0.8 percent of banked adults used internet banking, a strikingly low figure given the scale of investment already made in the platform. Slow adoption has been linked to continued long queues in banking halls, high transaction costs, and reduced customer satisfaction (Ogu, 2011; Jaiyeola, 2011).

A more fundamental gap, however, lies in the empirical literature itself. Existing studies on cashless policy and bank performance in Nigeria (e.g., Ighoroje & Okoroyibo, 2020; Helfasari, Gameyuni & Syaipudin, 2020; James & Eloho, 2020; Jonathan & Uju, 2019) have predominantly relied on a single financial-performance proxy, usually return on assets or return on equity, and have often bundled several electronic channels (ATM, POS, internet banking, mobile banking) into a single model without isolating channel-specific effects. Few studies have examined how internet banking specifically relates to both an asset-based measure (ROA) and a market-based, shareholder-oriented measure (EPS) of performance. This creates uncertainty as to whether internet banking genuinely supports asset profitability and shareholder returns, or whether the effects reported for it in the literature are being driven by other channels bundled into the same model. It is this gap that motivates the present study, which narrows its focus deliberately to internet banking against both ROA and EPS, using secondary data spanning 2012 to 2019.

Objectives of the Study

The main objective of the study is to investigate the effect of the Central Bank of Nigeria's cashless policy on the financial performance of deposit money banks in Nigeria, with specific reference to the internet banking channel. The specific objectives are to:

1. Ascertain the relationship between Internet Banking (IB) and Return on Assets (ROA) of selected deposit money banks in Nigeria.
2. Investigate the relationship between Internet Banking (IB) and Earnings per Share (EPS) of selected deposit money banks in Nigeria.

Research Questions

The following research questions guided the study:

1. To what extent is Internet Banking (IB) related to Return on Assets (ROA) of selected deposit money banks in Nigeria?
2. What is the relationship between Internet Banking (IB) and Earnings per Share (EPS) of selected deposit money banks in Nigeria?

Hypotheses

The following null hypotheses guided the study:

H01: There is no significant relationship between Internet Banking (IB) and Return on Assets (ROA) of selected deposit money banks in Nigeria.

H02: There is no significant relationship between Internet Banking (IB) and Earnings per Share (EPS) of selected deposit money banks in Nigeria.

Concept of Cashless Policy

Money has historically served as a unit of account, a store of value, a medium of exchange, and a means of deferred payment, evolving over time to reduce the transaction costs associated with exchange (Baddeley, 2004). The transition from barter to coinage, and subsequently to electronic money, reflects a continued search for fungibility, divisibility, and convenience. Adurayemi (2016) describes the CBN's cashless policy as a framework designed to provide mobile payment services, break down traditional barriers to financial inclusion, and extend low-cost, convenient financial services to urban, semi-urban, and rural areas alike. In a similar vein, Okoye and Ezejiofor (2013) define a cashless economy as one in which goods and services are bought and paid for predominantly through electronic media, while Ajayi (2014) stresses that a cashless economy does not imply the total absence of cash, but rather an economic setting in which electronic media is the dominant method of payment.

Adewale (2019) frames the cashless society as a gradual, systemic movement of an economy's payment architecture away from physical cash toward non-physical modes of payment across personal, corporate, and governmental transactions. Taiwo, Ayo, Afieroho and Agwu (2016), however, caution that the transition to a cashless economy has, in some assessments, lacked sufficiently strong empirical justification, and that the pace of transition raises legitimate concerns. Overall, the literature converges on the view that a cashless policy minimises, rather than eliminates, the use of physical cash by widening the range of electronic payment alternatives available to individuals and businesses (Woodford, 2003).

Internet Banking

Internet banking refers to the conduct of banking transactions over the internet using electronic devices, without the customer needing to visit a banking hall (Ben-Kinane, 2021; Woleola, 2017). Gandy (2017) observes that in Nigeria, internet banking is commonly used for bill settlement and the purchase of travel tickets through merchant websites. Olorunsegun (2017) describes internet

banking as the ability of customers to access their accounts and a wide range of bank products and services through a bank's website, without recourse to letters, faxes, or physical signatures. Uchenna (2015) similarly characterises internet banking as the use of the internet and telecommunications networks to deliver value-added banking products, enabling customers to perform routine transactions, including transfers, balance enquiries, and bill payments, from any location and at any time.

Concept of Financial Performance

Financial performance is a measure of how well a firm employs its assets from its principal line of business to generate revenue, and serves as a general indicator of a firm's overall financial health over a given period. Strong financial performance enhances stakeholder confidence, supports shareholder wealth maximisation, and strengthens a bank's competitive position (Akhalumeh & Ohiokha, 2012). This study measures financial performance using two complementary indicators, Return on Assets and Earnings per Share, described below.

Return on Assets (ROA)

Return on Assets is an indicator of how profitable a firm is relative to its total assets, calculated by dividing net income (or profit before tax) by total assets and expressed as a percentage (Emekwue, 2008). Prastowo (2002) describes ROA as a measure of how effectively a company exploits its assets to generate profit, while Brigham (2001) and Riyanto (2001) similarly regard a higher ROA as indicative of superior use of the asset base to generate returns for shareholders.

Earnings per Share (EPS)

Earnings per share measures shareholder profitability by indicating how much profit is attributable to each outstanding share of common stock. According to Hock and Nye (2010), EPS serves two functions: as a direct measure of profitability attributable to ordinary shareholders, and as the denominator in the price-earnings ratio, a key valuation metric used by the investment community. A higher EPS is generally interpreted as a signal of stronger profitability and a potentially more attractive investment.

Theoretical Framework

This study is anchored on the Diffusion of Innovation Theory (Rogers, 2003) and, complementarily, the Technology Acceptance Model (Davis, 1986). The Diffusion of Innovation Theory explains how, why, and at what rate new technologies, such as internet banking platforms, spread through a social system. It identifies relative advantage, compatibility, complexity, trialability, and observability as key factors shaping the rate of adoption, and is consistent with the slow uptake of internet banking observed among Nigerian bank customers. The Technology Acceptance Model, on the other hand, holds that perceived usefulness and perceived ease of use jointly determine an individual's intention to adopt a given technology, and offers a useful lens for understanding why, despite its availability, internet banking has not yet translated into significant measurable gains in bank profitability: adoption, and therefore the scale of usage needed to move profitability indicators, may still be below the threshold required for a statistically detectable effect.

Empirical Review

A substantial body of empirical work has examined the relationship between internet banking and bank performance, both in Nigeria and elsewhere, generally alongside other cashless-policy channels and with mixed results.

Several Nigerian studies have examined internet banking alongside ATM as a driver of bank performance. This pattern is evident in Ighoroje and Okoroyibo (2020) and James and Eloho (2020),

both of which employed unit-root tests (Augmented Dickey-Fuller and Phillips-Perron) alongside the Autoregressive Distributed Lag (ARDL) technique: both studies found that internet banking and ATM had significant positive effects on return on equity, whereas mobile banking was significant but negative. Okafor (2020), using descriptive statistics and regression analysis, similarly reported that internet banking, alongside POS, mobile banking, and ATM, had a significant positive effect on return on assets.

Other studies present a less favourable picture of internet banking specifically. Ugbede, Yahaya and Edicha (2019) found that internet banking had a positive and significant effect on bank profitability, alongside POS, though ATM was insignificant, an inversion of the pattern reported elsewhere. At the cross-country level, Mohammed and Saad (2011) found that electronic banking had a significant negative impact on bank performance in Jordan, while Cheruiyot (2016) reported only a small, statistically significant association between internet banking and profitability in Kenya, alongside a larger and negative association with bank risk. By contrast, Hussein and Elyjoy (2018) found that internet banking had a clearly positive and significant effect on the operational performance of Kenyan commercial banks, and Onay, Ozsoz and Helvacioğlu (2008) showed that internet banking in Turkey began contributing positively to return on equity, though only after a two-year adoption lag, suggesting that the timing of any performance effect may itself be an important consideration. More broadly, cashless policy has also been linked to bank performance and financial-sector development at a general level rather than through internet banking alone. Ogbeide and Fapohunda (2017), using Augmented Dickey-Fuller and panel least squares methods, found that cashless policy significantly determined bank financial performance, while Akara and Asekome (2018) reported a high positive correlation between cashless policy adoption and bank profitability using correlation analysis. Jonathan and Uju (2019) found that e-banking had a gradual but positive long-run impact on the performance of Nigerian deposit money banks between 2006 and 2017. Outside Nigeria, Helfasari, Gameyuni and Syaipudin (2020) used multiple regression and a paired-sample t-test to show that most cashless variables improved bank profitability in Indonesia, with the exception of bank checks and bilyet transfers, which had no discernible effect. Taken together, these studies illustrate the inconsistency in the literature regarding the specific contribution of internet banking to bank performance when it is bundled with other channels, and underscore why the present study isolates internet banking specifically against both ROA and EPS.

Overall, the reviewed studies present mixed and, at times, contradictory findings regarding the direction and significance of the relationship between internet banking and bank performance. Several studies bundle internet banking with other channels (ATM, POS, mobile banking) into a single model, making it difficult to isolate its marginal contribution. Others rely on a single performance proxy, most often ROA or ROE, without cross-checking against a shareholder-oriented measure such as EPS. This inconsistency underscores the need for the channel-specific, dual-outcome approach adopted in the present study.

METHODOLOGY

The study adopted an ex-post facto research design, which is appropriate given that the data used were drawn from historical, already-existing annual reports and accounts of the sampled deposit money banks rather than from data generated through direct manipulation of variables (Anao & Uche, 2002; Osuala, 2005). The population of the study comprised the twenty (20) deposit money banks listed on the Nigerian Stock Exchange (NSE) between 2012 and 2019, drawn from the NSE fact book, and included banks such as Access Bank Plc, Fidelity Bank Plc, First City Monument Bank Plc, First Bank of Nigeria Ltd, Guaranty Trust Bank Plc, Union Bank of Nigeria Plc, United Bank for Africa Plc, Zenith Bank Plc, Ecobank Nigeria Plc, Sterling Bank Plc, Unity Bank Plc, Wema Bank Plc, and others. A simple random sampling technique was used to select ten (10) deposit money banks from the accessible population of twenty (20) listed banks, ensuring adequate representation of the

population. The study relied entirely on secondary data manually extracted from the audited annual financial reports of the ten sampled banks for the 2012-2019 period, supplemented by the NSE fact book and relevant academic literature. Because the data were sourced from the audited annual reports of listed banks, filed with and verified by the Nigerian Stock Exchange, they are considered valid, reliable, and free from significant researcher-induced bias (Kalu, 2015).

In line with the study's two specific objectives, the model developed by Izedonmi and Okunbor (2014) was adapted and restricted to the channel of interest, internet banking, as follows:

$$ROA = f(IB)$$

$$EPS = f(IB)$$

Expressed econometrically, and consistent with the simple linear regressions reported in the Results section (each tested in line with objectives 1-2):

$$ROA = \beta_0 + \beta_2 IB + U_i \dots\dots\dots (used\ for\ H01)$$

$$EPS = \beta_0 + \beta_2 IB + U_i \dots\dots\dots (used\ for\ H02)$$

Where: ROA = Return on Assets; EPS = Earnings per Share; IB = Internet Banking value; β_0 = constant; β_2 = coefficient to be estimated; U_i = stochastic error term.

Decision Rule: Reject H_0 and accept H_1 if the two-tailed probability value (p) is less than 0.05; otherwise, accept H_0 and reject H_1 . Descriptive statistics were used to summarise the data on internet banking, ROA, and EPS. The two stated hypotheses were tested using simple linear regression analysis at the 5 percent significance level, with the aid of the Statistical Package for Social Sciences (SPSS).

RESULTS

Table 1: Internet Banking and Financial-Performance Data (2012-2019)

Year	Internet Banking (N'Billion)	ROA (%)	EPS (N.K)
2012	11,403,574	22.71	28.42
2013	14,437,316	26.99	8.51
2014	23,599,067	32.05	29.23
2015	40,807,146	26.47	30.10
2016	53,510,974	20.84	38.86
2017	35,904,384	32.25	20.88
2018	29,035,475	24.30	25.78
2019	37,037,797	18.01	63.57

Source: Nigerian Stock Exchange (NSE), Annual Reports of Sampled Banks.

Test of Hypotheses

Table 2: Internet Banking (IB) and Return on Assets (ROA) - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.249 ^a	.062	-.094	5.28443

a. Predictors: (Constant), IB

ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11.097	1	11.097	.397	.552 ^b
Residual	167.551	6	27.925		
Total	178.648	7			

a. Dependent Variable: ROA b. Predictors: (Constant), IB

Coefficients

Model	B	Std. Error	Beta	t	Sig.
(Constant)	28.207	4.753		5.935	.001
IB	-8.968E-8	.000	-.249	-.630	.552

a. Dependent Variable: ROA

The R² of 0.062 shows that internet banking accounts for about 6 percent of the variation in ROA. The slope coefficient (-8.968E-8) is negative, implying that a unit increase in internet banking value is associated with a decrease in ROA; however, the relationship is not statistically significant ($p = .552 > 0.05$). The null hypothesis (H01) is therefore not rejected: there is no significant relationship between internet banking and ROA among the selected deposit money banks.

Table 3: Internet Banking (IB) and Earnings per Share (EPS) - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.487 ^a	.237	.110	14.99044

a. Predictors: (Constant), IB

ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	419.488	1	419.488	1.867	.221 ^b
Residual	1348.281	6	224.713		
Total	1767.769	7			

a. Dependent Variable: EPS b. Predictors: (Constant), IB

Coefficients

Model	B	Std. Error	Beta	t	Sig.
(Constant)	13.732	13.482		1.019	.348
IB	5.514E-7	.000	.487	1.366	.221

a. Dependent Variable: EPS

The R² of 0.237 indicates that internet banking accounts for about 24 percent of the variation in EPS. The slope coefficient (5.514E-7) is positive, implying that a unit increase in internet banking value is associated with an increase in EPS; however, this relationship is not statistically significant

($p = .221 > 0.05$). The null hypothesis (H02) is therefore not rejected: there is no significant relationship between internet banking and EPS among the selected deposit money banks.

Discussion of Findings

H01: There is no significant relationship between internet banking and ROA. Although a positive relationship was anticipated, given findings such as those of Edwin and Adiele-Louise (2014), who reported a positive association between internet banking and profitability, the present analysis found a negative and statistically insignificant relationship. This is consistent with Alsmadi and Al-wabel (2014), who similarly found that organisational performance was negatively, albeit not always significantly, affected by cashless-policy variables.

H02: There is no significant relationship between internet banking and EPS. The result showed a positive but statistically insignificant relationship. While this is broadly in the expected direction, it does not achieve the strength of association reported in some prior studies, suggesting that internet banking's contribution to shareholder returns, while directionally positive, has not yet become large enough within this sample to be statistically distinguishable from zero.

CONCLUSION

Based on the findings, the study concludes that, within the 2012-2019 period, the internet banking channel had not yet developed a statistically significant relationship with either the asset profitability (ROA) or the shareholder profitability (EPS) of the sampled Nigerian deposit money banks. This does not imply that the cashless policy is without value; rather, it suggests that the financial-performance benefits of internet banking remain latent, and may depend on further improvements in transaction volume, digital infrastructure, and customer adoption before they become statistically detectable in banks' profitability metrics.

RECOMMENDATIONS

The following recommendations were made:

- i. Bank management should address the operational obstacles limiting the effectiveness of internet banking, including unreliable network connectivity, slow transaction processing, undisclosed charges, and phishing-related fraud, in order to build customer confidence and drive the transaction volumes needed for internet banking to make a statistically significant contribution to financial performance.
- ii. The Central Bank of Nigeria and other regulators should sustain public enlightenment campaigns on the benefits and safety of internet banking, alongside continued investment in the national payment infrastructure, to accelerate the adoption levels required for the intended financial-performance benefits of the cashless policy to materialise.

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