# Electronic Accounting System and Financial Performance of Deposit Money Banks in Nigeria

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***Abstract***
*This study investigated the relationship between electronic accounting systems and financial performance in Nigerian deposit money banks. In other to achieve this purpose, theory was formulated and examinations of correlated collected works were researched upon. Ex-post facto research design method was used. The studied data upon which the research is formulated is the secondary data on electronic accounting systems and financial performance wherein data was collected by means of Financial Statements of deposit money banks listed in the Nigeria Stock Exchange. The researched data were studied by means of inferential and descriptive statistical tools with the support of statistical package for social sciences version 23. The secondary data collected from 5 major listed deposit money banks on Nigerian stock market from 2018 to 2023 were analyzed using multiple OLS regression technique. The first findings revealed that Automated Teller Machine (ATM) had a positive and significant effect on Return on Capital Employed (ROCE) of deposit money banks in Nigeria, while the final finding revealed that Point of Sale (POS) had a positive and significant effect on Return on Capital Employed (ROCE) of deposit money banks in Nigeria. Thus, the study recommends that deposit money banks in Nigeria should prioritize the expansion and modernization of their ATM networks. This includes deploying more ATMs in strategic locations, ensuring regular maintenance, and incorporating advanced features like cash deposits and cardless transactions to enhance customer convenience and increase transaction volumes, thereby boosting overall returns on capital. The study also recommends that banks should focus on expanding their POS networks by providing incentives to merchants for POS adoption.*

## Introduction

Technology plays a key role in today's business environment. Every business, regardless of its size has to be effectively and successfully managed for it to survive, grow and remain sustainable. In today's business world, many companies greatly rely on technology to provide accurate information for their effective management. Thus, it has become increasingly necessary for all businesses to incorporate information technology solutions to operate successfully (Soudani, 2013)).

Shafaqa (2020) conducted a study aimed to measure the role of electronic accounting information systems in improving the quality of financial statements in Palestinian public institutions. The researcher found that the financial statements issued by these systems are neutral and represent actual events within the controls and help the decision maker to compare alternatives and make the appropriate decision. The study recommended developing these systems, increasing the efficiency and speed of accounting processing, forcing public institutions to obtain financial statements in accordance with legal controls, and providing a stable legal and administrative environment compatible with these

systems.
Electronic accounting systems, also known as computerized accounting systems, have revolutionized the way businesses manage their financial information. These systems use software and computer technology to record, process, and report financial transactions and data.

One of the key advantages of electronic accounting systems is their ability to streamline and automate various accounting processes. This includes tasks such as recording transactions, generating financial statements, and performing complex calculations.
Additionally, electronic accounting systems provide real-time access to financial information, allowing banks to monitor their financial performance more effectively. This includes tracking profitability ratios. By regularly analyzing these ratios, banks can identify areas of strength and weakness in their operations. For example, a low net profit margin may indicate higher expenses or lower revenue generation, prompting banks to take corrective measures. Electronic accounting systems facilitate better financial analysis and reporting. They offer features like data visualization, trend analysis, and forecasting, enabling banks to gain deeper insights into their financial performance and make strategic decisions accordingly.
Ahmed & Abdel Nour (2018), it aimed to know the role of the computerized accounting information system in improving the financial performance of insurance companies in Algeria with the aim of studying the financial position of the institution and discovering weaknesses and strengths and working to improve them. The most important results of the study were that the computerized accounting information system contributes in improving financial performance through its outputs and impact on the quality of the financial reports to be prepared and therefore it requires caution due to its significant impact on the future of the institution.
Abu (2017) conducted a study aimed to measure the principles of reliability of electronic accounting information systems and know their impact on the banking performance indicators of local banks operating in Palestine, which include indicators of financial and operational performance and stock performance. The study reached the commitment of Palestinian banks to apply the principles of reliability for electronic accounting information systems and to provide the requirements of these principles. The study recommended strengthening the Palestinian bank management's interest in applying the principles of reliability and forcing the Palestine Exchange to oblige the companies listed in it to apply these principles and to keep the system ready to work under any circumstance, especially in the Gaza Strip, due to the multiple wars it was exposed to.

(Al-Aifa, 2017) conducted a study aimed to know the role of accounting information systems in making financial decisions in Algerian institutions. The most important finding is that the information issued by the systems, especially (financial statements), is the mainstay for making financial decisions. The higher the information quality characteristics are, the higher the quality of the financial statements is. The most important recommendations of the study is to give as much attention as possible when designing the accounting information system and work to develop it continuously, and the institution must calculate all the necessary financial ratios from the financial statements to make more accurate financing decisions. Jovan (2022) conducted a study aimed at identifying the impact of the accounting information system on the financial performance of companies. The study found that the biggest

influence of information technology on accounting is the ability of companies to use and develop computerized systems that record financial transactions and facilitate administrative decision-making, internal controls and business quality. The researcher recommended the need to use accounting information systems to continue effectiveness performance that maintains productivity.

Big (2018) conducted a study aimed at identifying the impact of the accounting information system on the financial performance of a selected group of companies in India. The researcher 4
designed a questionnaire according to the five point Likert scale. The results showed after using simple linear regression that there is a statistically significant Impact between the two variables.

Al-Dhaleen & Al-Dhaleen (2018) conducted a study aimed at identifying the impact of the accounting information system on profitability in Jordanian banks. The study data was collected through a questionnaire prepared by the researchers and distributed to 206 employees, and the data was analyzed using linear regression. The results showed that there is a statistically significant impact between the two variables. This study was distinguished from previous studies that the study community, which is the Jordanian commercial banks, is different from its predecessors from other countries, and also some independent and dependent variables are different from their counterparts from previous studies, where recent variables were taken according to the accounting science of modifying and developing these variables.

**Statement of The Problem**

The study on the electronic accounting system and financial performance of deposit money banks in Nigeria aims to investigate how the use of electronic accounting systems affects the financial performance of these banks. It seeks to understand the impact of technology on the efficiency, accuracy, and overall profitability of deposit money banks in Nigeria. By examining key financial performance indicators such as gross profit margin, operating profit margin, net profit margin, return on assets (ROA), and return on equity (ROE), return on capital employed (ROCE) the study aims to provide valuable insights into the relationship between electronic accounting systems and the financial success of these banks. Akanbi (2022) found that AIS adoption improves companies and produces accurate and reliable financial reports. In a comparable Nigerian study, Amahalu, Abiahu, and Obi (2017) employed Return on Equity (ROE) to measure financial performance and mobile banking and ATMs to measure electronic banking with six banks. Electronic banking improved
Nigerian deposit money institutions' Financial performance. According to Gitau and Samson (2016), electronic fraud has reduced bank liquidity and performance. Electronic fraud is rising alarmingly, and efforts to reduce it have failed. According to Korolo and Korolo (2023) the investigation revealed a substantial positive association between ATMs and deposit money Banks' return on assets in Nigeria. Additionally, it was found that there is a strong positive Correlation between POS transactions and quoted deposit money banks in
Nigeria's return on assets. This has caused Nigerian deposit money institutions to perform poorly. This study will use Point of Sales (POS) and Automated Teller Machine (ATM) to measure electronic accounting systems, which prior studies have not included and Return on capital employment (ROCE) as measurement for financial performance.

**Objective of the Study**

The primary objective of this research is to examine the extent to which the implementation of electronic accounting systems affects the financial performance of deposit money banks in Nigeria. The objectives are to:

i. Examine the impact of automated teller machine (ATM) on return on capital employed (ROCE) of deposit money banks in Nigeria.
ii. Investigate the impact of point of sale (POS) on return on capital employed (ROCE) of deposit money banks in Nigeria.

**Hypotheses**

The following null hypotheses were tested at 0.05 level of significance:

i. Automated teller machine (ATM) has no significant effect on return on capital employed (ROCE) of deposit money banks in Nigeria.
ii. Point of sale (POS) has no significant effect on return on capital employed (ROCE) in deposit money banks in Nigeria.

**Methodology**

This research adopted *ex-post facto* research design. The study basically employed annual time series data for the period 2009 to 2022. However, because of the very short study period which is not sufficient for the implementation of the Ordinary Least Square (OLS) estimation process, the annual time series were converted into quarterly data to provide a large data point sufficient enough for the execution of the OLS technique. The secondary data were extracted from published CBN statistical bulletin from 2009 to 2022. The population of the study comprises all the twenty-four commercial banks in Central Bank of Nigeria official website as at December 2023. The study then adopted a census-survey technique, where all the 24 commercial banks will be used in the study.

$$ROCEit = \beta_0 + \beta 1LogPOSit + \beta 2LogATMit + \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\varepsilon$$

Where:

ROCEit -Return on capital employed of deposit money banks i at time t β0 -
Intercept β1POSit- Point of sale (POS) of deposit money banks i at time t
β2ATMit- Automated teller machine (ATM) of deposit money banks i at time t
β1 and β2= Beta coefficients ε = Error term

The ordinary least square method via SPSS 23 statistics was used to analyse the data. The study used the adjusted coefficient of determination (adj. R2) as the unit to measure the effect of accounting conservatism on reported performance of firms listed in the industrial sector from 2010-2023. The decision is that the null hypothesis will be rejected if p-value < 0.05, otherwise it will be accepted.

**Result and Analysis**

**Descriptive Statistics**

Analysis of descriptive statistics is carried out in this section so as to unveil the nature of data being used for analysis.

**Table 1: Descriptive Statistics of Data**

**STATISTICS**

| | | Point of Sale | Automated Teller Machine | Return on Capital Employed |
|---|---|---|---|---|
| N | Valid | 30 | 30 | 30 |
| | Missing | 0 | 0 | 0 |
| Mean | | 10.6937 | 7.6383 | .0943 |
| Std. Error of Mean | | .20252 | .09440 | .02155 |
| Median | | 10.3500 | 7.8650 | .0700 |
| Mode | | 9.77 | 6.69[a] | .05[a] |
| Std. Deviation | | 1.10926 | .51704 | .11805 |
| Variance | | 1.230 | .267 | .014 |
| Skewness | | .637 | -1.273 | 4.722 |
| Std. Error of Skewness | | .427 | .427 | .427 |
| Kurtosis | | -.720 | .050 | .400 |
| Std. Error of Kurtosis | | .833 | .833 | .833 |
| Minimum | | 9.19 | 6.55 | .02 |
| Maximum | | 12.93 | 8.09 | .69 |
| Sum | | 320.81 | 229.15 | 2.83 |

Source: Author's Compilation based on SPSS 23

The descriptive statistics in table 1 shows that the mean value of Point of Sale (POS), Automated Teller Machine (ATM), and Return on Capital Employed (ROCE) are 10.6937, 7.6383 and 0.943 respectively. The median of the variables Point of Sale (POS), Automated Teller Machine (ATM), and Return on Capital Employed (ROCE) are 10.3500, 7.8650, and 0.700 respectively and this shows the variables in the middle when the data is arranged in either ascending or descending order. The maximum and minimum statistics of Point of Sale (POS) are 12.93 and 9.19 while Automated Teller Machine is 8.09 and 6.55, and Return on Capital Employed (ROCE) are 0.02 and 0.69 respectively. The standard deviation of Point of Sale (POS), Automated Teller Machine (ATM), and Return on Capital Employed (ROCE) are 1.10926, .51704 and .11805 respectively.

The standard deviation measures the level of dispersion or spread of the series around the mean. Therefore, the higher the value, the higher the deviation of the series from the mean and vice versa. The Skewness of Automated Teller Machine (ATM) is below zero, thus, showing negative skewness, while Point of Sale (POS) and Return on Capital Employed (ROCE) are above zero, this showing positive skewness. A standard normal distribution has kurtosis of 3 and is recognized as mesokurtic. An increased kurtosis (>3) can be visualized as a thin "bell" with a high peak whereas a decreased kurtosis corresponds to a broadening of the peak and "thickening" of the tails. Kurtosis >3 is recognized as leptokurtic and <3 as platykurtic (lepto = thin; platy = broad). This shows that Automated Teller Machine (ATM), Point of Sale (POS), and Return on Capital Employed (ROCE)) has a kurtosis of less than three (3), indicating that the distributions are platykurtic.

**Hypothesis testing**

**Table 2: Regression Analysis**

**Coefficients[a]**

| | Unstandardized Coefficients | | Standardized Coefficients | | | 95.0% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. | Lower Bound | Upper Bound |
| (Constant) | -.501 | .331 | | -1.51 | .142 | -1.180 | .179 |
| Point of Sale | .049 | .018 | .465 | 2.706 | .003 | .012 | .087 |
| Automated Teller Machine | .009 | .039 | .038 | .219 | .004 | -.072 | .089 |

a. Dependent Variable: Return on Capital Employed

**Source: Author's Compilation based on SPSS 23**

**Hypothesis 1:** Automated teller machine (ATM) has no significant effect on return on capital employed (ROCE) of deposit money banks in Nigeria. The result found a positive influence of Automated Teller Machine (ATM) on Return on Capital Employed (ROCE) (B .038, t = .219, P; .0027 < .05), indicating that hypothesis 1 is Rejected.

**Hypothesis 2**: Point of sale (POS) has no significant effect on return on capital employed (ROCE) in deposit money banks in Nigeria. The result shows that Point of Sale also has a significant influence on Return on Capital Employed (ROCE). (B .465, t = 2.706, P; .0036 < .05). We therefore Reject the null hypothesis that Point of Sale (POS) does not influence Return on Capital Employed (ROCE).

**Discussion of Findings**

In assessing the extent to which the implementation of electronic accounting systems affects the financial performance of deposit money banks in Nigeria, three explanatory variables were taken into consideration; Automated Teller Machine (ATM), Point of Sale (POS), and Return on Capital Employed (ROCE). The result of our study found a positive influence of Automated Teller Machine (ATM) on Return on Capital Employed (ROCE). The findings of our study also showed that Point of Sale (POS) has a significant influence on Return on Capital Employed (ROCE).

This finding is consistent with that of Saba (2022), who looked at the impact of automated teller machines (ATMs) on customer satisfaction in the Nigerian metropolis of Sokoto. The results showed that ATM services have a favorable and significant impact on how easy they are regarded to use, how much transactions cost, and how secure the services are. Additionally, Asidok and Michael (2018) use data from a select group of banks from the Central Bank of Nigeria (CBN) statistical bulletin from 2007 to 2016 to evaluate the effect of automated teller machine (ATM) transactions on bank profitability in Nigeria. The findings reveal a positive and statistically significant association between automated teller machines of old and new-generation banks in Nigeria, suggesting that a major element influencing the performance of both old and new banks in Nigeria is automation. The effect of electronic banking on Kenya's commercial banks' profitability was also studied by Joseph (2019). His multiple regression analysis findings showed a substantial positive association between bank profits and ATM usage. The data also demonstrate that POS and return on assets for listed banks in Nigeria are significantly positively correlated.

The findings are consistent with those of (Chude & Chude, 2023; Udegbunam et al, 2019), who looked at how electronic banking affects commercial banks' profitability. The study discovered a substantial positive link between bank profitability and POS transactions (p=0.05–0.021). Okoye et al, (2016) also looked at how electronic banking affects commercial banks' profitability in Nigeria. The study aimed to investigate the connection between various e-banking channels and the financial success of Nigerian commercial banks. Four online banking options (automatic teller machines, electronic mobile banking, internet banking transactions, and point of sales services). The findings showed that there was a considerable influence of electronic banking on the profitability of commercial banks.

**Conclusion and Recommendations**

The study has affirmed that there is a positive and significant relationship between Automated Teller Machine (ATM) and Return on Capital Employed (ROCE) of deposit money banks in Nigeria. Also, the study has established that there is a positive and significant relationship between Point of Sale (POS) and Return on Capital Employed (ROCE) of deposit money banks in Nigeria.

Based on this conclusion the study gives the following recommendations:
To leverage the positive relationship between Automated Teller Machines (ATM) and Return on Capital Employed (ROCE), deposit money banks in Nigeria should prioritize the expansion and modernization of their ATM networks.
Given the positive impact of Point of Sale (POS) systems on Return on Capital Employed (ROCE), banks should focus on expanding their POS networks by providing incentives to merchants for POS adoption.

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