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Effect of ICT Software Expenditure on Financial Performance Among Listed Deposit Money Banks in Nigeria

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ABSTRACT

This study investigates the effect of Information and Communication Technology (ICT) software on the profitability of listed deposit money banks (DMBs) in Nigeria, addressing the concern that rising technology expenditures may not always yield proportional returns. The main objective is to assess the relationship between computer software investments and profitability, providing empirical evidence for informed financial decision-making in the banking sector. The study adopts a quantitative research design grounded in the positivist philosophy, emphasizing objectivity and empirical validation. Secondary data were obtained from the annual reports and financial statements of listed DMBs in Nigeria. Using purposive sampling, banks with complete and reliable financial data were selected. Analytical techniques employed include descriptive statistics, correlation analysis, and multiple regression analysis, with additional diagnostic tests to ensure the robustness of the model. The findings reveal a negative and statistically significant relationship between computer software expenditure and bank profitability, indicating that such investments may impose substantial short-term financial burdens. The study concludes that while ICT software plays a critical role in modern banking, poorly aligned or excessive expenditures can diminish profitability. It recommends that DMBs strategically manage software investments, ensuring careful cost-benefit evaluations, and emphasizes the importance of maintaining liquidity and optimizing capital structures to enhance overall profitability.

Keywords: Software Expenditure, Profitability, Liquidity and Leverage

INTRODUCTION

In the contemporary global economy, Information and Communication Technology (ICT) plays a pivotal role in reshaping the operational and strategic landscapes of financial institutions. The banking sector, especially, has embraced ICT to enhance efficiency, customer service, and financial performance (Akujor et al.,

2021). ICT software expenditure, including investment in core banking systems, financial management tools, and digital customer interfaces, has emerged as a critical factor influencing banks' operational efficiency and profitability. In Nigeria, deposit money banks (DMBs) have increasingly adopted ICT solutions to remain competitive in the dynamic financial ecosystem.

Over the past decade, Nigeria's banking sector has experienced rapid transformation due to ICT integration. This shift has led to the automation of various banking processes, improved data management, enhanced security protocols, and more accessible services for customers (Reenu & Sunil, 2023). As deposit money banks allocate more resources to ICT, the question arises: Does this increase expenditure on ICT software translate to improve financial performance? This inquiry becomes crucial for assessing the value and impact of ICT investments, especially given the substantial financial commitment required to maintain and upgrade these systems.

Despite the recognized importance of ICT in banking, there is limited empirical evidence on the specific effects of ICT software expenditure on the financial performance of deposit money banks in Nigeria (Akujor et al., 2021). As banks continue to allocate significant portions of their budgets to technology, understanding the direct relationship between ICT investment and financial outcomes is critical for strategic decision-making (Thakur et al., 2023). The crux of the issue lies in the fact that while ICT adoption is presumed to improve operational efficiency, it is unclear whether this translates into tangible financial performance metrics such as profitability, return on assets, and shareholder value (Uge, 2023),

Studies conducted in other regions, particularly in developed economies, have established a positive correlation between ICT investment and financial performance in banks (Brynjolfsson & Hitt, 2000; Kohli & Devaraj, 2003). However, the dynamics of ICT expenditure in developing economies like Nigeria, where market conditions, regulatory environments, and infrastructure limitations differ, may yield varying results. For instance, several studies focus on the broader impacts of ICT on organizational performance, but few delve into how software-specific investments influence the financial outcomes of Nigerian deposit money banks (Arvanitis & Loukis, 2024). Thus, a critical research gap exists in understanding the localized impact of ICT software expenditure on bank performance in this region.

Existing literature has not sufficiently explored the direct impact of ICT software expenditure on the financial performance of deposit money banks in Nigeria. Existing research, such as Arvanitis & Loukis (2024) and Reenu and Sunil (2023), either addresses broader ICT effects or focuses on sectors outside the banking industry, without considering software costs or the unique financial dynamics of banks in Nigeria. While studies like Thakur et al. (2023) and Mohammed et al. (2019) investigate ICT's impact on banking profitability, they do not delve into the specific costs associated with software. Furthermore, research such as Uge (2023) and

Enomate and Audu (2021) primarily focuses on sectors other than banking or on broader ICT investments, leaving a void in understanding how software expenditures specifically influence profitability in the banking sector. By concentrating on the cost of computer software and its effect on the profitability of listed deposit money banks in Nigeria, the current study aims to address this gap, providing valuable insights tailored to the regional and sectoral context that are not fully explored in existing literature.

This study aims to bridge this gap by investigating how ICT software expenditure affects the financial performance of listed deposit money banks in Nigeria. By isolating software-related investments from broader ICT spending, this study seeks to provide more precise insights into the financial implications of ICT adoption in the Nigerian banking context. The study establishes a null hypothesis to give direction to the study: **H_0:** ICT software Expenditure has no significant effect on the profitability of listed deposit money banks in Nigeria.

CONCEPTUAL REVIEW

In the study titled "Effect of ICT Software Expenditure on Financial Performance among Listed Deposit Money Banks in Nigeria," several key concepts are central to understanding the research. These concepts are foundational in examining the relationship between ICT investment and financial outcomes in the banking sector. Below is a detailed review of the main ideas:

Financial Performance

Financial performance refers to the degree to which financial objectives of an organization are met, typically measured through profitability, return on assets (ROA), return on equity (ROE), and cost efficiency (Arvanitis & Loukis, 2024). For banks, financial performance also includes factors such as liquidity, risk management, and asset utilization. This study seeks to establish a connection between ICT software expenditure and key financial performance indicators. It focuses on whether investments in ICT software improve financial performance metrics such as profitability. Understanding financial performance in this context helps gauge whether banks realize value from their ICT software investments.

Profitability refers to a bank's ability to generate income and profits from its operations after accounting for expenses (Reenu and Sunil, 2023). It is a core measure of financial performance, especially in evaluating how well a bank manages its resources to produce financial returns. In the banking industry, profitability is typically measured using various financial ratios such as Net Profit Margin, Return on Assets (ROA), and Return on Equity (ROE) (Uge, 2023). This study adopted Net Profit Margin as the measure of profitability. Net Profit Margin is the percentage of revenue that remains as profit after all operating expenses, interest, and taxes have been deducted. It provides insight into how effectively a bank converts its revenue into

actual profit. Investment in ICT software could enhance operational efficiency, reduce the cost of services, and automate processes (Kohli & Devaraj, 2003). If software investments help cut operational costs, such as labor or manual transaction handling, they could increase the net profit margin by reducing the total operating expenses of a bank.

Information and Communication Technology (ICT)

Information and Communication Technology (ICT) refers to the use of digital technologies such as computers, software, telecommunications, and the internet to store, transmit, and manipulate information (Enomate & Audu, 2021). In the context of the banking sector, ICT encompasses tools and platforms used to streamline operations, facilitate transactions, improve customer service, and support decision-making processes. The focus is on ICT software, which is distinct from hardware or telecommunications technology. Software investments in areas such as core banking systems, financial management applications, and customer relationship management (CRM) tools are examined to determine their impact on the financial performance of banks (Thakur et al., 2023). The role of ICT in enhancing operational efficiency and customer service is vital in competitive banking environments, especially for Nigerian deposit money banks.

2.1.3 ICT Software Expenditure

ICT software expenditure refers to the financial investment made by an organization in acquiring, developing, or upgrading software systems (Mohammed et al., 2019). These expenditures may include the purchase of new software, licensing fees, ongoing maintenance costs, and employee training related to software use (Brynjolfsson & Hitt, 2000). This concept is crucial as the paper isolates software-related investments from broader ICT spending (which may include hardware and telecommunication infrastructure). The research explores whether software-specific investments drive improvements in financial metrics such as profitability, return on assets (ROA), and cost efficiency (Arvanitis & Loukis, 2024). The study seeks to provide an understanding of how software investments affect bank performance in a Nigerian context.

THEORETICAL REVIEW

The study is underpinned by Resource-Based Theory. The Resource-Based Theory (RBT), proposed by Barney (1991), offers a valuable lens for examining the current study's focus on computer software costs and profitability in Nigerian deposit money banks (Mantik, et al., 2022). RBT posits that resources must be valuable, rare, inimitable, and non-substitutable to confer competitive advantage. In this context, advanced computer software represents a valuable resource that can enhance operational efficiency and financial management (Uge, 2023; Damayanti, et al. 2022; Nwala, et al., 2022). If the software is rare and provides unique functionalities not available to competitors, it can offer a competitive edge. Moreover, if the software's

benefits are difficult to replicate and cannot be easily substituted by alternative resources, it becomes a strategic asset. By analyzing how these software investments impact profitability, the study assesses whether they contribute to sustained competitive advantages, aligning with RBT's emphasis on the strategic value of unique and high-quality resources.

EMPIRICAL STUDIES REVIEW

ICT Software Expenditure and Profitability

Arvanitis and Loukis (2024) explore how various internal and external factors affected firms' behavior during the 2008 global economic crisis, particularly concerning their ICT investments. They looked at Greek firms from 2009 to 2014 and tested hypotheses related to internal factors like overall firm resources and ICT capabilities, and external factors such as competition and macroeconomic conditions. The study found that using flexible, non-hierarchical work structures and adopting Cloud Computing helped firms better withstand the crisis's impact on their ICT investments. However, it didn't address how the cost of computer software influences profitability, especially in Nigeria's banking sector. The current study will fill this gap by examining how software costs impact the profitability of listed deposit money banks in Nigeria.

Reenu and Sunil (2023) investigated the combined effects of ICT infrastructure, financial development, and trade openness on economic growth across 85 countries, including both low- and high-income nations, from 2000 to 2019. Their findings showed that ICT had a generally positive impact on economic growth, though the effects varied between low-income and high-income countries. The study highlighted the importance of financial development in enhancing the benefits of ICT. Yet, it didn't explore the cost of computer software or its direct impact on profitability within the Nigerian banking sector. The current study aims to address this by specifically analyzing how the cost of software affects the profitability of Nigerian banks.

Thakur et al. (2023) looked at how ICT impacts the profitability of banks in India over a decade (2010-2019). They discovered that while ICT had a generally negative linear effect on profitability, a more complex U-shaped relationship emerged in the long term. The study also found that non-performing assets negatively influenced ICT's impact on profitability. Despite these insights, the study did not consider the cost of computer software or its specific effects on profitability, and the context of Indian banks may not directly apply to Nigeria. The current study will fill this gap by focusing on how the cost of computer software affects the profitability of listed deposit money banks in Nigeria.

Uge (2023) examined the impact of ICT investments on the performance of insurance firms in Nigeria using data from 2012 to 2021. The study found that while IT expenses and investments in computer equipment positively affected financial performance, the cost of computer software did not have a significant impact. This

study's focus on insurance firms limits its relevance to the banking sector. The current study will address this gap by specifically exploring the relationship between computer software costs and the profitability of listed deposit money banks in Nigeria.

Akujor et al. (2021) assessed how ICT affects corporate performance using data from Zenith Bank Nigeria Plc. and United Bank for Africa Plc. from 2010 to 2016. They found ICT had a weak effect on corporate performance metrics like return on equity and assets, but a positive effect on earnings per share. However, the study did not focus on profitability or the specific cost of computer software. Given the limited sample size, the current study will provide broader insights into how computer software costs impact the profitability of a wider range of listed deposit money banks in Nigeria.

Hatra et al. (2021) explored how ICT investment impacts performance in Iran's manufacturing sector from 2008 to 2016. They found that both hardware and software significantly enhanced income growth. However, this study focused on manufacturing and did not address the banking sector or the specific context of Nigeria. The current study aims to bridge this gap by examining how computer software costs affect the profitability of listed deposit money banks in Nigeria.

Jane et al. (2021) investigated the impact of ICT on corporate performance in Nigerian banks, specifically Zenith Bank and United Bank for Africa, from 2010 to 2016. They found that while ICT had a limited effect on return on equity and assets, it positively influenced earnings per share. The study suggested focusing on essential ICT investments and staff training. However, it did not specifically examine the cost of computer software or its impact on profitability. The current study will address this gap by analyzing how software costs affect the profitability of listed deposit money banks in Nigeria, offering a more detailed perspective for banking management.

Enomate and Audu (2021) explored how Information and Communication Technology (ICT) affects the financial performance of non-financial service firms listed on the Nigerian Stock Exchange. They focused on a sample of 20 companies from diverse sectors such as food and beverages, pharmaceuticals, footwear, chemicals, and paints, covering the period from 2016 to 2020. By reviewing existing literature and applying the resource-based theory from Barney (1991), they gathered data through an ex post facto research design. Their analysis, which included both descriptive and inferential statistics using OLS regression, revealed that investments in ICT infrastructure positively impact financial performance. However, the role of ICT personnel was found to be positive but not significant. Notably, their study did not address the banking sector or delve into profitability issues, a gap this study aims to fill by examining how computer software costs affect the profitability of listed deposit money banks in Nigeria, offering valuable insights for stakeholders in the financial sector.

Akinboade (2020) investigated the influence of ICT usage on the financial performance of manufacturing companies in Lagos State, Nigeria. Using both primary data from interviews and questionnaires, and secondary data from annual reports spanning ten years, the study sampled 44 companies, though only 31 questionnaires

were returned. The findings highlighted that while ICT investment positively correlates with financial performance, the study did not cover the banking sector or profitability concerns. The manufacturing context also limits the applicability of the findings to financial institutions. The current study seeks to address this by focusing on the banking sector in Nigeria, specifically analyzing how computer software costs impact profitability, thereby providing insights relevant to financial institutions.

Nwala et al. (2020) examined how ICT investments influence the financial performance of listed insurance companies in Nigeria, using data from 16 companies over the period from 2012 to 2018. Employing the Random Effect regression method, their study found that investments in ICT hardware and software positively affect financial performance. However, their focus was not on the banking sector or profitability, which are crucial for financial institutions. This study will contribute to filling this gap by specifically analyzing the impact of computer software costs on the profitability of listed deposit money banks in Nigeria, offering new evidence in an under-researched area.

In another study, Akinboade (2020) assessed ICT's impact on financial performance in Lagos State's manufacturing sector. The research combined primary data from questionnaires and interviews with secondary data from company reports over ten years. Although it showed a positive relationship between ICT investment and financial performance, it did not address the banking sector or profitability. The current study aims to bridge this gap by focusing on the banking industry in Nigeria and investigating how computer software costs affect profitability, providing sector-specific and regional insights not covered in Akinboade's work.

Mohammed et al. (2019) investigated the impact of ICT on organizational productivity within Nigeria's banking industry. Their study, based on data collected through questionnaires and analyzed using multiple regression, highlighted that modern ICT components significantly boost productivity. Despite these findings, the study did not explore the cost of computer software or its effect on profitability. This current study will address these issues by examining the impact of computer software costs on the profitability of listed deposit money banks in Nigeria, aiming to offer practical insights for enhancing profitability through ICT investments.

METHODOLOGY

The current study employed a quantitative research approach with the ex-post facto research design in examining the effect of ICT software on profitability of listed deposit money banks in Nigeria. The choice of the ex-post facto research design was due to the fact that this research made use of data extracted from secondary sources. The population of this study was made up of all the 14 listed deposit money banks in Nigeria on the Nigerian Exchange Group (NGX) and purposive sampling technique was adopted to select 11 listed deposit money banks in Nigeria (The 11 listed deposit money banks in Nigeria include Access Bank Plc, Fidelity Bank Plc, First City Monument Bank Plc, First Bank of Nigeria Limited, Guaranty Trust Bank Plc, United Bank for Africa Plc, Zenith Bank Plc, Citibank Nigeria Limited, Ecobank Nigeria Plc,

Sterling Bank Plc, and Union Bank of Nigeria Plc.). The data used in this study were secondary data and they were obtained from the annual report of the sampled companies and the Nigeria Exchange group Fact book. Descriptive statistics, correlation analysis, and multiple linear Regression Analysis were employed in analyzing the data set (Uge, 2023; Nwala, et al., 2022). This study employed analytical software of STATA version 15.0.

The model specification for this study was adapted from Mantik et al. (2022) to align with the objectives of this research. The model is presented below:

$PROF_{it} = \beta_0 + \beta_1 CMSFT_{it} + \beta_2 LIQUID_{it} + \beta_3 LEVG_{it} + \varepsilon_{it}$

PROF = Profitability; CMSFT = Cost of Computer Software; LIQUID = Liquidity for entity; LEVG = Leverage; β_0 = intercept; β_1, β_2, β_3, = coefficients of the independent variables; ε = error term; i = firms cover for the study and t = time period for the study

Table 1: Variables Measurement

Variable	Code	Measurement	Source
Dependent			
Profitability	PROF	Return on Assets (Net Profit After Tax/Total Assets)	Mantik, et al. (2022)
Independent			
Cost of Computer Software	CMSFT	Natural log of firm's Cost of Software	Uge, (2023); Nwala, et al. (202
Control			
Liquidity	LIQUID	Current Ratio (Current Assets/Current Liabilities)	Rafli and Imron, (2023); Damayanti, et al. (2022)
Leverage	LEVG	Total Debt/Total Assets	Rafli and Imron, (2023)

Source: Author's Compilation, 2024

RESULTS AND DISCUSSION

Table 2: Descriptive Analysis

Variable	OBS	Mean	Std. Dev.	Min	Max
PRO	121	0.023583	0.031897	-0.2322645	0.239457
CMSFT	121	13.05456	2.70805	1.098612	18.49391
LIQUID	121	2.196032	18.76203	0.004677	541.0118
LEVG	121	0.825873	0.172147	0.0008426	2.547496

Source: STATA 14.0 Output, (2024)

The descriptive statistics of the study variables provide a detailed understanding of the distribution and variation of profitability, computer software costs, liquidity, and leverage among Nigerian deposit money banks.

Profitability (PROF), as the dependent variable, has an average (mean) value of 0.0236, indicating that the banks, on average, generate a profit margin of approximately 2.36%. The standard deviation of 0.0319 suggests moderate variability in profitability among the banks, with some banks experiencing negative profitability (minimum value of -0.2323) while others have higher profits (maximum value of 0.2395). This range of profitability highlights significant differences in the financial performance of the sampled banks.

Cost of Computer Software (CMSFT), the key independent variable, has an average value of 13.0546. The standard deviation of 2.7081 suggests some variation in the software costs incurred by different banks. The minimum value of 1.0986 indicates that some banks have relatively low software costs, while the maximum value of 18.4939 reflects substantial investments in computer software by other banks. The range between the minimum and maximum values implies that the level of investment in ICT infrastructure varies widely across the banks, which may influence their profitability.

Table 3: Correlation Matrix

	PRO	**CMSFT**	**LIQUID**	**LEVG**
PRO	1.0000			
CMSFT	-0.1891	1.0000		
LIQUID	0.3685	-0.1587	1.00000	
LEVG	-0.1892	0.0631	-0.31980	1.00000

Source: STATA 14.0 Output, (2024)

The study examines the effect of computer software costs on the profitability of Nigerian deposit money banks, with liquidity and leverage as control variables. Here's a detailed interpretation of the correlation matrix between the dependent variable (profitability), independent variable (cost of computer software), and control variables (liquidity and leverage):

The correlation between profitability and the cost of computer software (CMSFT) is weakly negative, with a coefficient of -0.1891. This suggests that increased spending on computer software is slightly associated with a decrease in profitability for Nigerian deposit money banks. While investing in ICT infrastructure is essential for operational efficiency, this weak relationship might indicate that these software investments are not directly translating into short-term profitability gains, potentially due to high implementation costs or delayed financial returns on these investments.

Profitability shows a moderate positive relationship with liquidity, with a correlation coefficient of 0.3685. This indicates that as liquidity increases, so does profitability in Nigerian deposit money banks. Maintaining high liquidity enables banks to meet their financial obligations, extend credit more confidently, and invest in revenue-generating opportunities. In the Nigerian banking sector, the ability to manage liquidity effectively is crucial for sustaining financial health and optimizing profitability.

There is a weak negative relationship between profitability and leverage, with a correlation coefficient of -0.1892. This indicates that banks with higher leverage (i.e., more debt relative to equity) tend to have slightly lower profitability. The negative relationship suggests that higher debt levels may lead to increased interest expenses, reducing overall profitability. However, the weak strength of this relationship implies that leverage does not play a dominant role in determining profitability in the Nigerian deposit money banking sector.

Diagnostics Tests

The study presents the multicollinearity test using the Variance Inflation Factor (VIF). The results indicate that all variables have VIF values below the commonly accepted threshold of 10, suggesting that multicollinearity is not a significant concern in this model. The variable with the highest VIF is firm size (FSIZE) at 6.19, indicating moderate multicollinearity, while ICT expenses (ICTEXP) and computer software costs (CMSFT) have VIF values of 4.70 and 4.00, respectively, which also show moderate multicollinearity but remain within acceptable limits. Leverage (LEVG), liquidity (LIQUID), and ICT assets (ICTASS) have low VIF values of 1.38, 1.16, and 1.14, respectively, indicating minimal multicollinearity. The mean VIF of 3.10 suggests that overall multicollinearity is low in the model, supporting the reliability of the regression results.

The Breusch-Pagan/Cook-Weisberg test for heteroskedasticity presented in the analysis shows a chi-square value of 12.91 with a corresponding p-value (Prob > chi2) of 0.0003. Since the p-value is less than the conventional significance level of 0.05, this indicates the presence of heteroskedasticity in the model. In other words, the variance of the residuals is not constant across different levels of the independent variables, which may affect the efficiency and reliability of the estimated coefficients. To address this issue, the study applied robust standard errors to correct for heteroskedasticity and ensure more accurate and consistent regression results.

Table 4: Regression Coefficient

PRO	Coef.	Robust Std. Err	T	P>|t|
CMSFT	-0.00627	0.00170	-3.69	0.000
LIQUID	0.00297	0.00055	5.38	0.000
LEVG	-0.02764	0.01735	-1.59	0.112
Cons	0.01516	0.02238	0.68	0.499
Number of OBS				121
F (3, 351)				8.97
Prob > F				0.000
R-squared				0.2364

Source: STATA 14.0 Output, (2024)

The regression analysis offers key insights into the impact of computer software costs, liquidity, and leverage on the profitability of Nigerian deposit money banks.

The overall significance of the model is confirmed by the F-statistic of 8.97 and a p-value of 0.0000, indicating that the independent variables collectively influence profitability. However, the R-squared value of 0.2364 shows that only 23.64% of the variation in profitability is explained by the model, meaning that other factors not included in this analysis also contribute to profitability in Nigerian banks. These could include external factors such as economic conditions, market competition, or changes in regulatory policies, which are important considerations in the financial sector.

First, the results show that computer software costs (CMSFT) have a statistically significant and negative effect on profitability. With a coefficient of -0.00627 and a p-value of 0.000, the findings suggest that an increase in computer software investment tends to reduce profitability. This indicates that while Nigerian banks are investing in software to improve operational efficiency and technological capabilities, the immediate financial returns may be negative, possibly due to the high initial costs of software acquisition, implementation, and maintenance. This highlights a domain-specific challenge in the banking sector, where digital transformation may take time to translate into profitability.

Discussion of findings

The findings of the current study reveal that ICT software Expenditures have a significant negative impact on profitability, aligning with Thakur et al. (2023), who identified a U-shaped relationship between ICT and profitability in Indian banks. Both studies emphasize the short-term costs associated with ICT investments; however, Thakur's study suggests potential long-term benefits that the current study did not explore. The focus on immediate impacts in the current study may explain this difference, as Nigerian deposit money banks could face higher initial costs, especially

for regulatory compliance and security, leading to short-term profit reductions. This contrasts with Uge (2023), who found that software costs had no significant impact on the profitability of Nigerian insurance firms, underscoring the differences in ICT needs and cost structures across sectors. Insurance firms may require less capital-intensive software, leading to less of a short-term financial burden compared to banks. Resource-Based Theory (RBT) supports these findings by highlighting how internal resources, such as the specific nature of ICT investments, affect firm profitability. In the banking sector, the high upfront costs of computer software may initially deplete profitability, but these investments could become strategic resources that deliver long-term competitive advantages, consistent with RBT's framework.

CONCLUSION

In conclusion, the study reveals that the costs associated with computer software have a notable negative impact on profitability among Nigerian deposit money banks (DMBs), reflecting the significant upfront investments required for software acquisition and implementation. Conversely, higher liquidity is positively associated with profitability, underscoring the value of maintaining strong liquid assets to meet short-term obligations and exploit profitable opportunities. Leverage, however, does not show a significant effect on profitability, suggesting that the level of debt does not consistently influence financial performance in this sector. These insights indicate that while strategic investment in software can be costly, effective liquidity management is crucial for sustaining profitability in the Nigerian banking sector.

RECOMMENDATIONS

The study recommend that Nigerian deposit money banks should strategically manage their computer software investments to balance short-term profitability with long-term benefits. Careful evaluation of software costs and their anticipated returns should be conducted to avoid detrimental effects on immediate financial performance. Additionally, banks should prioritize maintaining high levels of liquidity to ensure they can meet short-term obligations and seize profitable opportunities, enhancing overall profitability. Given the lack of significant impact of leverage on profitability, DMBs should focus on optimizing their capital structures and debt management practices in alignment with their financial strategies, rather than relying solely on leverage to boost performance.

6.0 AUTHORS CONTRIBUTION

Dr. Mabur Zumbung Danladi was responsible for the introduction and conceptualization of the study. Deshi Nentawe Nengak handled data collection and analysis, discussed the findings, and developed the conclusion and recommendations. Nanchin Anna Christopher Faka undertook the methodological design and conducted the empirical review. All authors reviewed and approved the final manuscript.

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