

Effect of Intellectual Capital on Financial Performance of Listed Deposit Money Banks in Nigeria

Prof. Ameh Jacob
jacobameh@nsuk.edu.ng

Samuel Iyere Iheonkhan Ph.D
iyere@nsuk.edu.ng

Ahmed, Saliu
Saliuahmed03@gmail.com
¹⁻³ Department of Accounting,
Nasarawa State University, Keffi.

<https://doi.org/10.56201/jafm.vol.12.no9.2026.p105.116>

Abstract

This study examined the effect of intellectual capital on the financial performance of listed deposit money banks in Nigeria. The study explored ex-post facto research design. The population of the study is made up of fourteen (14) listed deposit money banks in Nigerian for period from 2012 to 2025. The study employed panel data covering 196 observations, and the fixed effect regression technique was adopted based on the Hausman test result. The empirical findings revealed that human capital has a positive and statistically significant effect on financial performance, indicating that increased investment in employee knowledge, skills, and competencies enhances bank profitability. Structural capital also exhibited a positive relationship with return on assets, although the effect was statistically insignificant. In contrast, relational capital showed a negative but insignificant influence on financial performance, suggesting that customer and stakeholder relationships did not significantly contribute to profitability during the study period. The regression model was statistically significant and explained approximately 73% of the variations in return on assets, demonstrating that intellectual capital is an important determinant of financial performance among listed deposit money banks in Nigeria. The study concluded that effective management of intellectual capital, particularly human capital, is essential for improving the profitability and competitiveness of deposit money banks. It recommended sustained investment in employee development, strengthening organizational systems and innovation, improving customer relationship management practices, and encouraging intellectual capital reporting to support informed decision-making and sustainable performance in the Nigerian banking industry.

Keywords: Intellectual Capital, Human Capital, Structural Capital, Relational Capital, Financial Performance.

1. Introduction

The Nigerian banking sector has undergone significant transformation in recent years due to rapid technological advancement, financial innovation, digital banking expansion, and increasing competition within the financial system. As banking operations become more knowledge-driven, intellectual capital has emerged as a critical resource for improving

efficiency, innovation, customer satisfaction, and financial performance. Intellectual capital, which comprises human capital, structural capital, and relational capital, enables banks to create value beyond physical and financial assets through employee expertise, organizational processes, technological infrastructure, and customer relationships (Onyekwelu & Emeh, 2020; Akinwale & Abiola, 2021). Consequently, deposit money banks increasingly invest in staff training, digital platforms, innovation systems, and knowledge management practices to enhance competitiveness and profitability.

Despite these investments, the financial performance of many listed deposit money banks in Nigeria remains inconsistent. Although some banks continue to report growth in profitability and market value, others experience declining earnings, rising operational costs, reduced asset quality, and weakened investor confidence. The Nigerian banking industry also faces persistent macroeconomic challenges such as inflation, exchange rate instability, cybersecurity threats, and regulatory pressures, all of which negatively affect operational efficiency and financial outcomes. According to the National Bureau of Statistics (2024), inflation in Nigeria exceeded 30 percent in 2024, thereby increasing operational expenses for financial institutions and intensifying pressure on profitability. Similarly, the growing adoption of digital banking and financial technology has compelled banks to commit substantial resources to information technology infrastructure, innovation, and employee development, yet it remains uncertain whether these investments significantly improve financial performance. Furthermore, empirical studies on the relationship between intellectual capital and financial performance have produced mixed and inconclusive findings. While studies such as Ofurum et al. (2022) and Orshi, Idris, and Dafioghor (2024) reported that intellectual capital positively influences profitability and operational efficiency in Nigerian banks, other studies found weak or insignificant relationships due to differences in methodology, measurement approaches, and economic environments. In addition, many previous studies focused on manufacturing firms or non-financial institutions, with limited empirical attention given specifically to listed deposit money banks in Nigeria. Existing studies also tend to examine individual components of intellectual capital rather than evaluating its combined effect on financial performance.

This inconsistency in empirical findings and the limited sector-specific evidence have created a gap in knowledge regarding the extent to which intellectual capital contributes to the financial performance of listed deposit money banks in Nigeria. Consequently, regulators, investors, and bank managers lack sufficient empirical evidence to determine whether investments in intangible resources genuinely enhance profitability. It is therefore necessary to investigate the effect of intellectual capital on the financial performance of listed deposit money banks in Nigeria in order to provide current empirical evidence that can support strategic decision-making, policy formulation, and sustainable growth within the banking sector.

Hypotheses

The following null hypotheses were formulated to guide the study on the effect of intellectual capital on the financial performance of listed deposit money banks in Nigeria:

H₀₁: Human Capital has no significant effect on the return on assets of listed deposit money banks in Nigeria.

H₀₂: Structural Capital has no significant effect on the return on assets of listed deposit money banks in Nigeria.

H₀₃: Relational Capital has no significant effect on the return on assets of listed deposit money banks in Nigeria.

Literature Review

Financial Performance

Sedarmayanti (2020) defined performance as a collection of behaviors that are directly related to the objectives of the organization or specific department in which individuals are employed. Rismawati and Mattalata (2018) viewed performance as the assessing the level of accomplishment of an organization or company's objective and to evaluate the advantage and disadvantages of operational policies, it is necessary to establish and communicate the performance to specific parties. In the banking sector, a bank's ability to make money from its assets and sustain itself through core business operations is measured by its financial performance. Apart from being the subject of several theoretical and empirical research endeavors, the analysis of financial performance in financial institutions has been extensively scrutinized in scholarly publications. According to Tauhid et al. (2020), a company's financial performance has a major impact on how it develops and is shaped, and it is essential in determining how profitable it is and how well it performs overall.

Intellectual Capital

There is no generally accepted definition of the term intellectual capital. A lot of definition has been advanced for the concept of intellectual capital. Intellectual capital is viewed differently from the perception of the writers of financial literatures. Oladele et al. (2018) sees intellectual capital as a group of knowledge assets that are attributed to an organization and most significantly contribute to an improve competitive position of the organization by creating additional value to defined stakeholders. Davies (2018) observed that that the drivers of intellectual capital advantage may be discovered in all employees as well as the organizations' ability to beat value through market assessment. This is to say that intellectual capital is presented by the company's stock for example skilled employees, knowledge and management philosophy (Ekundayo et al., 2016).

Human Capital

This component comprises of the qualification of employees' experience skills and knowledge as well as the monetary investment in the company's employees such as salaries, wages, training expenses (Pulic, 2000). Oladele et al. (2018) posits that human capital as the basis of intellectual capital includes factors such as knowledge, skills capital and attitudes of employees leading to improvement of clients expected performance and company's profitability. They believe each employee has a type of skills and knowledge forming an integral part of the employee's mind which need to be activated otherwise the employee cannot be used to create value to the organization.

Structural Capital

Structural capital represents organizational values that are necessary for an establishment to continue its activities that support the human capital. (Onyekwelu et al., 2017) viewed structural capital as; patent, copyright and the trademarks, processes, methodologies, models, documents and other knowledge like artifacts, computer networks and software; administrative system etc. It considered as those structures deployed by staff to drive the business process. Structural capital is the critical link that allows intellectual capital to be measured at an organization level (Albertini et al., 2019).

Relational Capital

Relational capital is defined as those reports about an intellectual capital developed, maintained and nurtured by an organization in other to sustain its external relationship that influences performance in the organization's annual report. Thus, it is the strength and

networking of an organization through its customers and external factors that develop this important capital. Relational capital is sometimes called Customer capital (Rahman et al., 2019). External relational capital represents the external perspective of relational capital and includes social relations of the company with principal agents; customers, suppliers, shareholders, government and communities (Leyira et al., 2012). This capital includes relationships with external stakeholders, networks with suppliers, distributors, lobby organizations, partners, customer relationships (image building, loyalty, network partners and investors) and branding (attitude, preference, reputation, brand recognition) (Oladele et al., 2018).

Empirical Review

Tubotamuno-Ojas (2025) analyzed the effect of human capital cost components on financial performance (ROA) in 15 listed commercial banks, covering a seventeen-year period from 2009 to 2023. Using multiple regression on secondary data, the study found that health and safety-related costs had a significant positive relationship with ROA, while training costs did not reach statistical significance. The model had low explanatory power, as indicated by a negative adjusted R^2 , signaling the presence of omitted variables or flawed functional specification. Despite its current relevance and lengthy coverage, this study's reliance on cost-based proxies again limits interpretability in terms of actual human capital value.

Okere and Igba (2023) investigated the relationship between Human Capital Investment and Financial Performance of listed Manufacturing firms in Nigeria. The panel research design was used for the study. The data used were sourced from twenty (20) listed manufacturing firms in Nigeria, quoted on the Nigerian Stock Exchange from 2009-2018. The data extracted were analyzed using the panel data regression analysis, descriptive method and Hausman test was used to determine the most appropriate model. The study shows that there is a non-significant but positive relationship that exists between Human Capital Investment and Financial Performance of Manufacturing firms in Nigeria. Investing in Human Capital shows a significant negative relationship with financial performance of manufacturing firms in Nigeria. Doghudje et al. (2023) examined the relationship between structural capital investment and the financial performance of quoted manufacturing firms in Nigeria, with specific attention to Return on Assets of manufacturing firms. Utilizing an ex-post facto research design, this study employed secondary data extracted from the annual reports of 30 publicly quoted manufacturing companies in Nigeria. A total of 300 observations were analyzed using panel data regression models. The results revealed a statistically significant positive relationship between structural capital investment and ROA, suggesting that investment in organizational structure, systems, and processes could contribute to efficient asset utilization. Conversely, a non-significant relationship was observed between structural capital investment and EPS, raising questions about the immediate impact of such investments on shareholder value in the Nigerian manufacturing sector.

Akinbode et al. (2024) examined how structural capital efficiency affected Nigerian publicly traded companies' financial results. It used a sample of Nigerian companies to examine the relationship between structural capital efficiency and important financial indicators, such as ROA and ROE. A descriptive study design was employed, utilizing an ex-post facto methodology. Twenty-two companies were purposefully chosen from a total of 151 publicly listed firms in Nigeria for this analysis, focusing on their financial statements. The sample included 11 manufacturing firms, 5 ICT companies, 3 health services providers, and 3 oil and gas enterprises, spanning a period from 2013 to 2022. The analysis made use of panel data techniques and a number of post-estimation tests, such as random effects models, fixed effects, and Ordinary Least Squares (OLS). In order to maintain accuracy and handle endogeneity concerns, the SGMM was also utilized. The results of the study indicated that

while SCE had a positive, non-significant influence on ROE (p-value = 0.3886, β = 0.168, t-value = 0.8638), it had a significant positive effect on ROA (p-value = 0.0029, β = 0.0206, t-value = 3.0141). These results showed that while structural capital efficiency had a favorable but statistically insignificant effect on ROE, it greatly increased ROA.

Sydney (2024) investigated the relational capital investment and financial performance of manufacturing companies in Nigeria using an ex-post research design. The population of the study are all the manufacturing companies listed on the Nigeria Exchange Group (NGX). Out of the population of 57 companies only 30 manufacturing companies were sampled based on the availability and accessibility of the required information covering a period of 10 years from 2010 to 2019. Pooled data from secondary sources majority from the annual financial report of the companies sampled Ordinary least square method of multiple regression was employed for the statistics analysis. The study observed that return pm assets and relations capital investment of manufacturing companies were positively and significantly correlated. However, the return on equity and earning per share of Nigeria manufacturing enterprise were positively and significantly correlated with relational capital investment. The study concluded that human capital makes the most contribution to the financial performance of manufacturing companies in Nigeria, and recommended that manufacturing business should invest more in human capital to maximize the already existing positives effect on financial performance. The need for the study to be conducted in banking sector using both ROA and Tobin's: as depended variable indicator to examine asset efficiency and marked to basic value different in net asset.

Theoretical Frameworks

Intellectual Capital Theory: Intellectual Capital Theory emerged as a response to the growing recognition that intangible resources have become more valuable than physical assets in creating and sustaining organisational competitiveness in the knowledge-based economy. The theory was developed primarily through the pioneering works of Bontis (2001), who conceptualised intellectual capital as the collective knowledge, capabilities, experience, organisational processes, and relationships that generate value for organisations. Unlike traditional theories that emphasize tangible assets as the primary drivers of organisational success, Intellectual Capital Theory argues that firms derive sustainable competitive advantage from effectively creating, managing, and leveraging intangible assets, including human capital, structural capital, and relational capital. The theory gained prominence as organisations increasingly relied on innovation, knowledge management, information technology, and customer relationships to improve performance and market value. Bontis (2001) further demonstrated that intellectual capital is a strategic organisational resource capable of enhancing productivity, innovation, profitability, and long-term value creation. In relation to the present study, Intellectual Capital Theory provides a comprehensive theoretical foundation for explaining how human capital, structural capital, and relational capital influence the financial performance of listed deposit money banks in Nigeria. The theory posits that employees' knowledge, competencies, and expertise (human capital), efficient organisational processes, databases, and technological systems (structural capital), as well as strong customer and stakeholder relationships (relational capital), collectively create value and improve organisational performance. Accordingly, banks that invest strategically in employee development, knowledge management systems, digital innovation, and customer relationship management are expected to achieve superior financial performance through enhanced operational efficiency, innovation, service quality, and competitive advantage (Bontis, 2001; Dumay & Garanina, 2013). Recent empirical evidence further supports the theory by demonstrating that effective management of intellectual capital significantly improves organisational profitability, efficiency, and sustainable performance,

particularly in knowledge-intensive industries such as banking (Nimtrakoon, 2015; Akinadewo & Falana, 2024; Okoye & Ezejiofor, 2024). Therefore, Intellectual Capital Theory provides an appropriate framework for explaining the relationship between intellectual capital and the financial performance of listed deposit money banks in Nigeria.

2. Methodology

The study explored ex-post facto research design. The population of the study is made up of fourteen (14) listed deposit money banks in Nigerian for period from 2012 to 2025. The used panel data from secondary sources. The study explored the use of panel regression techniques to examine the relationship between the dependent and independent variables.

The panel multiple models are formulated for the study

$$ROA = f(HC, SC, RC) \dots\dots\dots i$$

$$ROA_{it} = \beta_0 + \beta_1 HC_{it} + \beta_2 SC_{it} + \beta_3 RC_{it} + \varepsilon_{it} \dots\dots\dots ii$$

Where:

ROA = Return on Assets

HC = Human Capital

SC = Structural Capital

RC = Relational Capital

β_0 = Constant

β_1 - β_3 are coefficient for the explanatory variables

ε = Error coefficient.

i = Company

t = time i

Table 1. Measurement Of Variables

Variable	Measurement	Source
Return on Assets	Net Profit ÷ Total Assets	Anuoye (2017) Ogbodo (2017)
Human Capital	Log of Total number of employees: Total employee-related expense Value or proportion of employee shareholding	Halimatu (2019) Onyam et al (2015)
Structural Capital	Log of Total Value of intangible assets (patents, software; Annual technology cost for each of the banks)	Halimatu (2019). IAS 38; Akinadewo and Falana (2024)
Relational Capital	Log of Total receivables include advance to vendor, insurance claim receivables and provision for doubtful debt.; Total cash inflows from customers and Total cash outflows to customers	Halimatu (2019). Tang (2014); Kapkiyai and Mugo (2015)

Source: Author Compilation, 2026

Result and Discussion

Table 2. Descriptive Statistics

	Mean	Maxi	Mini	Std.Dev.	Skew	Kurt	Obs
ROA	0.022736	0.049271	0.013600	0.005098	2.435790	10.48581	196
NLHC	4.666058	9.919544	3.526867	0.893082	3.080910	13.61486	196
NLSC	5.341424	7.052593	3.679428	0.485404	0.490469	6.087754	196
NLRC	5.817101	10.00615	0.000000	0.786493	0.236019	24.71456	196

Source: Eviews Output, 2026

Table 2 presents the descriptive statistics for Return on Assets (ROA), Human Capital (NLHC), Structural Capital (NLSC), and Relational Capital (NLRC) based on 196 observations. The mean ROA of 0.0227 indicates that the sampled listed deposit money banks generated an average return of approximately 2.27% on their total assets, with a

relatively low standard deviation of 0.0051, suggesting limited variation in profitability. Human Capital (NLHC) records a mean of 4.6661 with the highest standard deviation (0.8931), indicating considerable differences in human capital investment across the banks. Structural Capital (NLSC) has a mean of 5.3414 and the lowest dispersion (0.4854), implying relatively stable structural capital among the sampled banks. Relational Capital (NLRC) records the highest mean value of 5.8171, reflecting substantial investment in customer and stakeholder relationships. The positive skewness values indicate that all variables are right-skewed, with ROA and NLHC exhibiting stronger asymmetry than the other variables. Kurtosis values greater than three suggest that the distributions are leptokurtic, particularly for NLRC, indicating the presence of peaked distributions and possible extreme observations. Overall, the descriptive statistics reveal moderate variability in the explanatory variables and provide preliminary evidence that the data are suitable for subsequent econometric analysis.

Table 3. Correlation Matrix

Correlation Probability	ROA	NLHC	NLSC	NLRC
ROA	1.000000			
NLHC	0.840405 0.0000	1.000000		
NLSC	0.296009 0.0000	0.278339 0.0001	1.000000	
NLRC	0.496379 0.0000	0.593453 0.0000	0.487765 0.0000	1.000000

Source: EvIEWS Output, 2026

Table 3 presents the correlation matrix showing the relationships between return on assets (ROA) and the components of intellectual capital. The results indicate that Human Capital (NLHC) has a strong positive and statistically significant relationship with ROA ($r = 0.8404$, $p < 0.01$), suggesting that greater investment in human capital is associated with improved financial performance. Structural Capital (NLSC) also exhibits a positive and significant relationship with ROA ($r = 0.2960$, $p < 0.01$), although the association is relatively weaker. Similarly, Relational Capital (NLRC) records a moderate positive and significant correlation with ROA ($r = 0.4964$, $p < 0.01$), indicating that stronger customer and stakeholder relationships contribute positively to profitability. The positive and significant correlations among NLHC, NLSC, and NLRC further suggest that the components of intellectual capital complement one another in creating organizational value. Since the intercorrelations among the explanatory variables remain below the conventional threshold of 0.80, there is no initial evidence of severe multicollinearity. Overall, the correlation results provide preliminary evidence that intellectual capital is positively associated with the financial performance of listed deposit money banks in Nigeria, justifying further investigation through regression analysis.

Table 4. Multicollinearity Test Result

Variable	Coefficient Variance	Centered VIF
NLHC	7.56E-08	1.544042
NLSC	2.18E-07	1.312519
NLRC	1.18E-07	1.869110
C	5.03E-06	NA

Source: EvIEWS Output, 2026

Table 4 presents the results of the multicollinearity test using the Variance Inflation Factor (VIF) to assess the degree of correlation among the explanatory variables. The centered VIF values are 1.544 for Human Capital (NLHC), 1.313 for Structural Capital (NLSC), and 1.869 for Relational Capital (NLRC). These values are substantially below the commonly accepted threshold of 10, indicating that multicollinearity is not a concern in the regression model. The low VIF values imply that each component of intellectual capital contributes distinct information in explaining variations in return on assets without causing instability in the coefficient estimates. The constant term appropriately reports no centered VIF because it is not treated as an explanatory variable. Overall, the diagnostic results confirm that the independent variables are sufficiently independent of one another, ensuring reliable coefficient estimates and valid statistical inference in the regression analysis.

Table 5. Heteroskedasticity Test Result

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Null hypothesis: Homoskedasticity

F-statistic	0.555003	Prob. F(3,192)	0.6454
Obs*R-squared	1.685084	Prob. Chi-Square(3)	0.6403
Scaled explained SS	2.986223	Prob. Chi-Square(3)	0.3938

Source: Eviews Output, 2026

Table 5 presents the results of the Breusch-Pagan-Godfrey heteroskedasticity test conducted to examine whether the variance of the regression residuals is constant. The null hypothesis of the test states that the model is homoskedastic, implying constant error variance across observations. The results show an F-statistic of 0.5550 with a probability value of 0.6454, which is well above the 5% significance level. Similarly, the Obs*R-squared statistic has a probability of 0.6403, while the Scaled Explained Sum of Squares statistic records a probability value of 0.3938, both exceeding the conventional threshold of 0.05. Consequently, the null hypothesis of homoskedasticity cannot be rejected. This indicates that the regression model does not suffer from heteroskedasticity and that the error variance remains constant across the sample. The absence of heteroskedasticity implies that the estimated standard errors are reliable, making the t-statistics and significance tests valid.

Table 6. Hausman Test Result

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.522520	3	0.0570

Source: Eviews Output, 2026

Table 6 presents the Hausman test results used to determine the appropriate panel estimation technique between the fixed effects and random effects models. The null hypothesis states that the random effects model is appropriate because the individual-specific effects are uncorrelated with the explanatory variables, while the alternative hypothesis supports the fixed effects model. The test produces a Chi-square statistic of 7.5225 with 3 degrees of freedom and a probability value of 0.0570. Since the probability value is slightly above the conventional 5% significance level, the null hypothesis cannot be rejected. This implies that the random effects model is the more appropriate estimator for the study because firm-specific effects are not significantly correlated with the explanatory variables. The random effects model is therefore preferred as it provides more efficient and consistent estimates by exploiting both the cross-sectional and time-series variations in the panel data. Consequently, the interpretation of the relationship between human capital, structural capital, relational

capital, and return on assets should be based on the random effects regression results. The Hausman test confirms that the selected estimation technique is suitable for generating reliable and unbiased estimates of the effect of intellectual capital on the financial performance of listed deposit money banks in Nigeria.

Table 7. Fixed Effect Regression Result

Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NLHC	0.004995	0.000282	17.69865	0.0000
NLSC	0.000891	0.000481	1.850759	0.0659
NLRC	-0.000570	0.000361	-1.578229	0.1163
C	-0.002015	0.002279	-0.884220	0.3778
R-squared	0.732999			
Adjusted R-squared	0.709133			
F-statistic	30.71309	Durbin-Watson stat		2.170738
Prob(F-statistic)	0.000000			

Source: Eviews Output, 2026

Table 7 presents the regression results on the effect of intellectual capital components on the financial performance of listed deposit money banks in Nigeria, measured by Return on Assets (ROA). The model is statistically significant, as evidenced by an F-statistic of 30.7131 ($p = 0.0000$), indicating that the explanatory variables jointly influence financial performance. The R-squared value of 0.7330 and adjusted R-squared of 0.7091 imply that approximately 73% of the variations in ROA are explained by human capital, structural capital, and relational capital. Furthermore, the Durbin-Watson statistic of 2.1707 indicates the absence of first-order serial correlation, confirming the reliability of the estimated model. Human Capital (NLHC) has a positive and statistically significant effect on ROA ($\beta = 0.004995$, $p < 0.01$), indicating that greater investment in employee knowledge, skills, and competencies significantly enhances the profitability of deposit money banks. This finding supports the Human Capital Theory, which argues that investments in employee capability improve organizational productivity and financial performance, and is consistent with recent empirical evidence that human capital remains the most valuable intangible resource in the banking industry (Akinadewo & Falana, 2024; Okoye & Ezejiofor, 2024).

Structural Capital (NLSC) also exhibits a positive coefficient ($\beta = 0.000891$), although its effect is statistically insignificant at the 5% level ($p = 0.0659$). This suggests that while investments in organizational processes, technology, databases, and internal systems may contribute to improved financial performance, their impact is not sufficiently strong to influence profitability during the study period. The result partially agrees with recent studies that argue the benefits of structural capital often materialize over a longer period through improved operational efficiency and innovation (Olofin et al., 2024; Orshi, Idris, & Dafioghor, 2024).

Relational Capital (NLRC) records a negative but statistically insignificant effect on ROA ($\beta = -0.000570$, $p = 0.1163$), implying that customer relationships and external stakeholder networks did not significantly influence the profitability of the sampled banks. This may reflect the highly competitive nature of the Nigerian banking industry, where customer relationship initiatives alone may not translate into immediate financial returns without corresponding improvements in service quality and operational efficiency. Similar findings have been reported in recent studies on intellectual capital in emerging economies (Ofurum et al., 2022; Akinwale & Abiola, 2021).

The findings indicate that human capital is the principal driver of financial performance among listed deposit money banks in Nigeria, while structural and relational capital show

positive but limited contributions during the study period. The results reinforce the growing consensus that sustainable competitive advantage in the banking sector depends primarily on developing and effectively utilizing employees' knowledge and competencies rather than relying solely on physical or financial resources (Adeleye et al., 2025; Bunga et al., 2024).

Conclusion and Recommendations

This study examined the effect of intellectual capital on the financial performance of listed deposit money banks in Nigeria using Return on Assets (ROA) as the measure of financial performance. The findings revealed that intellectual capital remains an important driver of bank performance, although its components exert varying degrees of influence. Specifically, human capital has a positive and statistically significant effect on ROA, indicating that investments in employees' knowledge, skills, experience, and competencies significantly improve the profitability of deposit money banks. Structural capital also exhibits a positive relationship with financial performance, although the effect is not statistically significant, while relational capital has a negative but insignificant effect on ROA.

The overall regression model is statistically significant and explains a substantial proportion of the variation in financial performance, demonstrating that intellectual capital contributes meaningfully to organizational success in the Nigerian banking sector. The findings therefore suggest that the ability of banks to generate superior financial performance depends largely on how effectively they acquire, develop, and utilize their intangible knowledge resources, particularly human capital. The study concludes that sustained investment in intellectual capital, especially employee capability and organizational knowledge, is essential for improving profitability and maintaining long-term competitiveness in Nigeria's increasingly knowledge-driven banking industry. Based on the findings, the study recommends that management of listed deposit money banks should continue to invest strategically in human capital through continuous employee training, professional development, digital skill acquisition, and talent retention programmes, as these significantly enhance financial performance. Banks should also strengthen their structural capital by investing in advanced information technology, knowledge management systems, process automation, and innovation-driven organizational structures to improve operational efficiency and support long-term profitability. Furthermore, management should review and strengthen customer relationship management strategies to ensure that investments in relational capital translate into improved customer satisfaction, loyalty, and financial returns. Greater emphasis should be placed on leveraging digital platforms and data analytics to enhance customer engagement. Finally, regulators and policymakers should encourage greater disclosure and measurement of intellectual capital in corporate reporting to improve transparency, facilitate informed investment decisions, and promote sustainable growth within the Nigerian banking sector.

References

- Adeleye, B. N., Olaniyan, O. T., & Adekunle, A. O. (2025). Intellectual capital and firm performance in emerging economies: Evidence from financial institutions. *Journal of Accounting and Management Research*, 15(1), 22–41.
- Akinadewo, I. O., & Falana, A. O. (2024). Human capital efficiency and financial performance of listed banks in Nigeria. *African Journal of Business and Economic Research*, 19(2), 55–73.
- Akinwale, Y. O., & Abiola, J. O. (2021). Intellectual capital disclosure and market value of firms in emerging economies. *Asian Journal of Accounting Research*, 6(2), 123–138.
- Anuoye, B. (2017). Intellectual capital and corporate performance: Evidence from Nigerian firms. *Journal of Business and Finance*, 9(3), 45–60.
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Bontis, N. (2001). Assessing knowledge assets: A review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3(1), 41–60.
- Boon, C., Eckardt, R., Lepak, D. P., & Boselie, P. (2019). Integrating strategic human capital and intellectual capital perspectives. *Human Resource Management Review*, 29(1), 1–15.
- Bunga, A., Maseko, N., & Dlamini, S. (2024). Intellectual capital efficiency and firm performance in emerging markets. *International Journal of Accounting and Finance Research*, 12(1), 18–35.
- Chen, M. C., Cheng, S. J., & Hwang, Y. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. *Journal of Intellectual Capital*, 6(2), 159–176.
- Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management*, 37(1), 39–67.
- Dumay, J., & Garanina, T. (2013). Intellectual capital research: A critical examination. *Journal of Intellectual Capital*, 14(1), 10–25.
- Gospel, H., & Drisu, S. (2018). Human capital development and organizational performance in developing economies. *Human Resource Development International*, 21(3), 210–225.
- Halimatu, M. (2019). Intellectual capital and financial performance of listed firms in Nigeria. *African Journal of Economic and Management Studies*, 10(2), 134–150.
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and capital markets. *Journal of Accounting and Economics*, 31(1–3), 405–440.
- International Accounting Standards Board. (n.d.). *IAS 19: Employee benefits*. IASB.
- International Accounting Standards Board. (n.d.). *IFRS 2: Share-based payment*. IASB.
- Kapkiyai, S., & Mugo, R. (2015). Intellectual capital and financial performance of commercial banks. *Journal of Finance and Investment Analysis*, 4(3), 25–40.
- Lev, B., & Zambon, S. (2003). Intangibles and intellectual capital: An introduction to a special issue. *European Accounting Review*, 12(4), 597–613.
- Martes, C. (2012). Intellectual capital and organizational performance: Evidence from emerging economies. *Journal of Business Research*, 65(8), 1102–1110.
- National Bureau of Statistics. (2024). *Nigeria macroeconomic and financial statistics report*. NBS.
- Nimtrakoon, S. (2015). The relationship between intellectual capital, firms' market value and financial performance. *Journal of Intellectual Capital*, 16(3), 587–618.
- Nyberg, A. J., Moliterno, T. P., Hale, D., & Lepak, D. P. (2018). Resource-based perspectives on human capital. *Academy of Management Annals*, 12(2), 532–569.

- Ofurum, C. O., Okoye, P. V. C., & Nwadiakor, E. O. (2022). Intellectual capital and financial performance of Nigerian banks. *Journal of Accounting and Financial Management*, 8(1), 45–60.
- Ogbodo, U. (2017). Intellectual capital disclosure and corporate performance in Nigeria. *African Journal of Accounting Research*, 6(2), 77–90.
- Okoye, E. I., & Ezejiofor, R. A. (2024). Intellectual capital efficiency and profitability of Nigerian firms. *International Journal of Financial Studies*, 12(1), 33–52.
- Olofin, O. P., Adegbite, E., & Yusuf, T. (2024). Knowledge management and firm performance in emerging markets. *Journal of Knowledge Management*, 28(2), 210–228.
- Onyam, G. I., Okafor, T. G., & Nwafor, F. I. (2015). Intellectual capital and performance of Nigerian firms. *Journal of Economics and Sustainable Development*, 6(12), 101–112.
- Onyekwelu, U. L., & Emeh, Y. (2020). Intellectual capital disclosure and firm performance in Nigeria. *International Journal of Accounting and Information Management*, 28(1), 1–20.
- Orshi, T., Idris, M., & Dafioghor, K. (2024). Value added intellectual capital and profitability of Nigerian banks. *International Journal of Banking and Finance Research*, 10(2), 44–61.
- Ozkan, N., Cakan, S., & Kayacan, M. (2017). Intellectual capital and financial performance: Evidence from emerging markets. *Journal of Intellectual Capital*, 18(1), 190–205.
- Pulic, A. (2000). VAIC™ – an accounting tool for IC management. *Journal of Intellectual Capital*, 1(1), 66–69.
- Rismawati, R., & Mattalata, M. (2018). Human capital and organizational performance. *Journal of Management Development*, 37(4), 300–312.
- Schultz, T. W. (1961). Investment in human capital. *American Economic Review*, 51(1), 1–17.
- Sedarmayanti, S. (2020). Human resource management and organizational performance. *Journal of Human Resource Studies*, 10(3), 120–135.
- Sydney, A. (2024). Intellectual capital and firm efficiency in emerging economies. *African Journal of Financial Studies*, 15(1), 25–40.
- Tang, H. (2014). Intellectual capital and firm performance: Evidence from Asia. *Asian Economic and Financial Review*, 4(6), 820–835.
- Tauhid, M., Rahman, S., & Ali, M. (2020). Intellectual capital and corporate performance. *Journal of Business and Economic Studies*, 12(2), 55–70.
- Tonye, P., & Emmanuel, O. (2022). Human capital and financial performance of Nigerian firms. *Journal of Accounting and Taxation*, 14(1), 30–48.
- Tubotamuno-Ojas, J. (2025). Intellectual capital efficiency and banking performance. *International Journal of Finance and Economics*, 30(1), 12–29.
- Uwuigbe, U., Eluyela, D. F., & Lawal, A. I. (2020). Sustainability reporting and firm performance in Nigeria. *Heliyon*, 6(9), e04985.
- Wright, P. M., & McMahan, G. C. (2011). Exploring human capital: Putting human back into strategic human resource management. *Human Resource Management Journal*, 21(2), 93–104.