International Journal of Business & Law Research 14(3):85-95, July-Sept, 2026

© SEAHI PUBLICATIONS, 2026 www.seahipublications.org **ISSN: 2360-8986**

DOI:10.5281/zenodo.21450007

Biodiversity Disclosures and Financial Performance of Listed Industrial Goods Firms in Nigeria

Omaliko Emeka. PhD[1] & Mordi Kelvin Adim PhD[2]

[1]Department of Accountancy,
Faculty of Management Sciences,
Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

[2]Department of Accounting Education,
Federal College of Education (Technical), Asaba, Delta State, Nigeria

ABSTRACT
This study investigated the relationship between biodiversity disclosures and firm financial performance with reference to listed industrial goods firms in Nigeria. Biodiversity disclosures was proxied using disclosure index adopted from Zhang (2023) and Raghda (2023) while firm financial performance on the other hand was measured using an accounting-based measurement of return on sales (ROS) and a market-based measurement of net assets per share (NAPS). A sample of 11 listed industrial goods firms were used for the period of six (6) years covering the period of 2020 to 2025. The study used *Ex-Post Facto* Design while the data for the study was collected from annual reports and accounts of the listed industrial goods firms on Nigerian Exchange Group (NGX). Using regression model, the results of the study showed that there is a positive and significant relationship between biodiversity disclosures and financial performance of listed industrial goods firms in Nigeria at 1% level of significance. Thus, the study concludes that biodiversity disclosures influence financial performance of listed industrial goods firms in Nigeria. The study therefore recommends above all that firms should establish systematic approaches to identifying, measuring, and managing biodiversity impacts and dependencies as such practices enables firm financial performance in Nigeria.
Keywords: Biodiversity Disclosures; Return on Sales; Net Assets Per Share; Financial Performance

1.0 INTRODUCTION

The escalating global biodiversity crisis has prompted increasing calls for corporate accountability regarding ecological impacts, yet biodiversity disclosure remains significantly underdeveloped compared to climate-related reporting, particularly in emerging economies (Dias et al., 2021; Roberts et al., 2021). While the Taskforce on Nature-related Financial Disclosures (TNFD) has established frameworks for integrating biodiversity risks into corporate reporting, adoption has been slow and uneven across sectors and geographies (Adams & Abhayawansa, 2022). In Nigeria, where industrial goods firms operate in ecologically sensitive environments characterized by high biodiversity value, the absence of systematic biodiversity disclosure poses both regulatory and reputational risks (Ogundele & Adegbite, 2023).

The industrial goods sector in Nigeria comprising cement, building materials, packaging, and chemical firms listed on the Nigerian Exchange Group (NGX) is characterized by resource-intensive operations that directly interface with natural ecosystems through raw material extraction, land use change, waste

discharge, and emissions (Eze & Nwankwo, 2022). These firms are listed on the NGX and thus subject to corporate governance codes that mandate sustainability reporting, though biodiversity metrics remain largely voluntary and inconsistently applied (Okoye & Odum, 2021). Consequently, biodiversity disclosures by Nigerian industrial goods firms tend to be fragmented, qualitative, and non-comparable, limiting their utility for stakeholder decision-making (Uwuigbe et al., 2020).

The relationship between biodiversity disclosure and financial performance presents a critical but unresolved empirical debate. On one hand, stakeholder theory suggests that transparent biodiversity reporting can enhance corporate legitimacy, reduce regulatory scrutiny, attract environmentally conscious investors, and improve access to capital, thereby positively influencing financial performance (Luo & Tang, 2020; Clarkson et al., 2022). On the other hand, legitimacy theory posits that firms with poor environmental performance may strategically avoid or obscure biodiversity disclosures, and the costs of biodiversity management and assurance may outweigh short-term financial gains (Deegan, 2019; Michelon et al., 2021). Empirical evidence from developed economies remains mixed, and virtually no studies have examined this relationship within the Nigerian industrial goods context.

The core problem is threefold. Firstly, existing research on biodiversity disclosure has concentrated on extractive industries, forestry, and agriculture in developed countries, leaving a significant geographical and sectoral gap regarding listed industrial goods firms in sub-Saharan Africa (Ahmad et al., 2021). Nigeria's unique regulatory environment combining NGX sustainability disclosure requirements, the Nigerian Sustainable Banking Principles, and the Companies and Allied Matters Act creates a distinct institutional context that cannot be assumed to replicate findings from other jurisdictions (Adegbite & Nakpodia, 2020).

Secondly, prior studies that examined environmental disclosure and financial performance in Nigeria have largely aggregated environmental metrics (e.g., carbon emissions, waste management) without specifying the specific effects of biodiversity disclosure (Ofoegbu & Odoemelam, 2020). This aggregation obscures whether biodiversity often perceived as peripheral to core financial risk independently influences financial outcomes such as return on assets, Tobin's Q, or market value. Industrial goods firms face direct biodiversity risks through supply chain dependencies on water, aggregates, and timber, yet these risks remain unquantified in financial reporting (Okonkwo & Nweze, 2022).

Thirdly, methodological limitations in the extant literature have hindered causal inference. Most Nigerian studies rely on cross-sectional designs and disclosure indices that treat biodiversity as a dichotomous (presence/absence) rather than continuous or quality-adjusted variable (Olayinka & Oyewumi, 2021). Furthermore, endogeneity concerns wherein profitable firms have resources to invest in biodiversity reporting, rather than such reporting driving profitability has not been sufficiently resolved (Christensen et al., 2021).

Consequently, investors, regulators, and firm managers lack evidence-based guidance on whether biodiversity disclosure represents a value-relevant activity worthy of strategic investment or a symbolic compliance exercise with negligible financial consequences. For policymakers at the Securities and Exchange Commission (SEC) Nigeria and the NGX, the absence of sector-specific evidence impedes the design of mandatory biodiversity disclosure frameworks tailored to industrial goods firms. Without such evidence, Nigerian industrial goods firms may underinvest in biodiversity management, exposing them to latent regulatory liabilities, reputational damage, and supply chain disruptions as global biodiversity finance frameworks.

This study therefore seeks to investigate the effect of biodiversity disclosures on the financial performance of listed industrial goods firms in Nigeria. By addressing this, the study aimed to provide empirical grounding for integrating biodiversity into mainstream financial analysis and corporate reporting standards in Nigeria's industrial goods sector. To achieve this purpose, the following hypotheses were formulated;

H_{01}: Biodiversity disclosure has no significant effect on return on sales of listed industrial goods firms in Nigeria

H_{02}: Biodiversity disclosure has no significant effect on net assets per share of listed industrial goods firms in Nigeria

2.0 LITERATURE REVIEW

2.1. Biodiversity Disclosures

According to Jones (2014), biodiversity disclosure is a disclosure on firms need to actively protect, conserve, and improve biodiversity within its sphere of operation through activities designed to improve the recording, reporting, and valuing of biodiversity. It is a process where corporations discharge accountability for their role in the biodiversity crisis by accounting for their biodiversity-related strategies and policies. In doing so, they make their commitments, activities, and performance public (Jones & Solomon, 2013).

It is a corporate accountability achieved through external disclosure of commitments, activities, and performance, which is an important aspect of organizational stewardship and legitimacy (Addison et al., 2018). Skouloudis et al. (2019) see it as a process of capturing information relevant to biodiversity management by employing a certain set of comprehensive, valid, and credible quantitative and qualitative indicators.

2.1.2 Financial Performance

Financial performance is the result of activity, and the appropriate measure selected to assess corporate performance is considered to depend on the type of organization to be evaluated, and the objectives to be achieved through that evaluation (Horsfall, 2022). Corporate financial performance is mostly associated with the concept of corporate economic growth, highlighting the prevalence of the types of capital such as those specific to natural, human and social (Rusu & Oprean-Stan, 2024)

According to Rufaida (2024), financial performance is a representation of the firms' financial condition in a certain accounting period, including aspects of collecting and distributing funds. Financial performance is a reflection of the financial condition of a company during a certain period, in terms of both capital raising and distribution, which are typically measured by capital adequacy indicators, liquidity, and profitability (Bakkara & Ningsih, 2024).

Firm financial performance refers to the quantifiable economic outcomes of a firm's operational and strategic activities as reflected in its financial statements over a specific reporting period. It is commonly measured using accounting-based profitability ratios such as Return on Assets (ROA), which indicates how efficiently a firm utilizes its asset base to generate earnings; Return on Equity (ROE), which measures the return generated on shareholders' invested capital; and Net Interest Margin (NIM), a sector-specific metric for banks' that captures the difference between interest income earned and interest paid out relative to earning assets (Omaliko, 2026).

2.2 Theoretical Framework

2.2.1 Stakeholder Theory

Stakeholder theory was propounded in the year 1984 by Freeman. The theory explains the relationship between biodiversity disclosures and firm financial performance by noting such disclosures as a strategic tool for managing relationships with diverse stakeholder groups. According to this theory, a firm's long-term success depends on its ability to balance the interests of all stakeholders including shareholders, employees, customers, regulators, local communities, and environmental non-governmental organizations not merely maximize shareholder value. Biodiversity disclosures serve as a mechanism for discharging accountability to these groups, demonstrating the firm's commitment to environmental stewardship and its awareness of nature-related risks. Through this disclosure, firms can strengthen their reputation and legitimacy, which reduces the risk of consumer boycotts, regulatory sanctions, or loss of the social license to operate. By voluntarily reporting on biodiversity impacts, firms also reduce information asymmetry, allowing investors to better assess financial risks associated with biodiversity loss. This can lead to a lower cost of capital, improved access to sustainable finance, and higher firm valuation. Additionally, the process of gathering and disclosing biodiversity information often encourages internal innovation and operational efficiencies, opening new market opportunities for nature-positive products.

While initial compliance costs may temporarily dampen performance, empirical research generally supports a positive long-run relationship. For example, a study by Wang et al. (2026) found a U-shaped effect: negative impacts from upfront costs were eventually outweighed by benefits from enhanced stakeholder trust and transparency. Another study by Mata et al. (2025) compared listed companies in the United Kingdom and South Africa and concluded that stakeholder pressure is a primary driver of biodiversity reporting, particularly in high-risk regions.

Overall, stakeholder theory predicts and emerging evidence confirms that strategic biodiversity disclosure contributes to sustainable value creation and improved firm performance over time. Hence, the study was anchored on Stakeholders theory

2.3 Empirical Review

Onipe (2026) explored the relationship between biodiversity reporting and corporate financial performance using a sample of 148 firms listed on the Nigerian exchange group over the period of 2010 to 2024. The study employed panel regression analysis to determine whether biodiversity disclosures influence financial outcomes, while controlling for firm size, profitability, leverage, growth opportunities, firm age, and liquidity. The regression results indicate that biodiversity reporting has a positive and statistically significant effect on firm financial performance, suggesting that transparent biodiversity disclosures enhance stakeholder confidence and contribute to sustainable value creation. The findings also show that larger firms with more extensive biodiversity disclosures tend to achieve stronger financial results. These outcomes carry important implications for corporate environmental strategy, regulatory policy, and investment decisions in emerging markets.

Hlel (2025) investigated the relationship between biodiversity impact reduction disclosure and firm performance, with a focus on the moderating role of governance quality. The study utilized an international panel dataset comprising companies from 87 countries spanning the period of 2002 to 2021, and employed regression analysis. The results of the study show that transparent reporting on biodiversity impacts contributes to more resilient financial performance. Specifically, companies that recognize their influence on ecosystems and integrate biodiversity conservation into their strategic planning and accounting practices tend to demonstrate greater financial stability and long-term sustainability. Furthermore, the quality of corporate governance plays a crucial role in enhancing both the breadth and credibility of biodiversity disclosures. Given that biodiversity loss is increasingly recognized as a critical global risk, the study underscores the strategic importance of robust governance in fostering responsible environmental practices and improving transparency related to biodiversity issues.

Watanabe et al. (2025) examined whether biodiversity conservation efforts pay off financially for Japanese firms. Analyzing 1,079 firm-year observations from publicly listed Japanese companies between 2017 and 2022, the study measured conservation effort as the ratio of biodiversity-related expenditures to total environmental costs, while financial performance was assessed using Return on Assets (ROA) for profitability and the Price-to-Book Ratio (PBR) for market valuation. The results revealed a significant positive effect on ROA for firms in the manufacturing sector, suggesting that biodiversity conservation contributes to higher profitability for high-impact industries. However, this positive relationship did not hold for non-manufacturing firms, and no clear sectoral differences emerged for market valuation. This study concludes that the financial benefits of biodiversity conservation are sector-specific rather than universal.

In contrast, Ma et al. (2025) explored the market consequences of biodiversity disclosures among Chinese A-share listed companies, employing machine learning techniques to construct a comprehensive disclosure quality index. The empirical analysis of the study revealed that biodiversity disclosure has a negative impact on firm value, a finding that runs counter to conventional stakeholder theory predictions. This negative effect intensified following major regulatory events such as the Kunming Declaration and updated disclosure rules in 2021, which increased compliance costs for firms. Notably, the study further observed that biodiversity disclosures are associated with higher future capital expenditures and research and development investments, indicating that the adverse market reaction may stem from anticipated financial burdens rather than a rejection of conservation activities themselves.

Raghda (2023) investigated the influence of biodiversity disclosure on corporate financial performance. The study used a content analysis of 100 Fortune Global companies over a three-year period, using a specially developed index to assess the quality of biodiversity reporting. The study applied normality tests, correlation analysis, and a multiple linear regression model estimated via ordinary least squares to determine the effect of biodiversity disclosure on financial outcomes. A Hausman test was also conducted to confirm the robustness of the findings. The results indicated a relationship between biodiversity disclosure and two financial performance measures: return on assets (ROA) and the price-to-book ratio. Specifically, biodiversity disclosure had a statistically significant positive effect on ROA at the 5% significance level. On the other hand, biodiversity disclosure showed a positive association but statistically insignificant with the price-to-book value per share at the 5% level. The study therefore concludes that biodiversity disclosure enables firm financial performance.

3.0 METHODOLOGY

The study adopted *Ex Post Facto* design based on the fact that the data for the study was secondary which already existed and cannot be manipulated. The population of the study consists of all the 11 listed industrial goods firms on the Nigerian Exchange Group (NGX) as at December 31, 2025, covering the period of 2020-2025. Thus, the study used the entire population of the study. On this basis, a total of 11 firms made up the sample size for the study. It ranges from Austin Laz and Company Plc, Beger Paints Plc, Beta Glass Plc, Bua Cement Plc, CAP Plc, Cutix Plc, Dangote Cement Plc, Lafarge Africa Plc, Meyer Plc, Premier Paints Plc to Tripple Gee Company Plc.

The data for the study was collected from the annual accounts and annual accounts of the sampled firms. Panel least square regression model was therefore used to examine the relationship between biodiversity disclosures and financial performance listed industrial goods firms in Nigeria.

3.1 Operationalization and Measurement of Variables

The dependent variable in this study is firm performance and it was proxied and measured using one accounting based measurement (return on sales) and one market-based measurement (net assets per share). The independent variable of biodiversity disclosure on the other hand was proxied using a disclosure index consisting of (51) items grouped into 4 categories adapted from Hassan et al. (2020); Carvajal et al. (2022); Zhang (2023); Raghda (2023). This is shown below on table 3.1.1 as thus:

Table 3.1.1: Variable Measurements

Variables	Measurement	Source	A Priori Expectations
Biodiversity Disclosure (BD)	All 51 items have a score ranging from 0 to 3, where a score of (0) if the item does not disclosure at all in the annual report, a score of (1) if the item appears in minimum, fuzzy and/or general, and a score of (2) if the item appears to include objective, present actual data and verifiable disclosure form, and A score of (3) if the item appears including all the ingredients of score of (2) in addition to providing specific information on the operating sites used	Hassan et al. (2020); Carvajal et al. (2022); Zhang (2023); Raghda (2023)	It is expected to have a positive effect.
Return on Sales (ROS)	Net Profit After Tax / Sales	Oliveira et al. (2020), Raheman et al. (2021)	
Net Assets Per Share (NAPS)	Net Assets/ Number of Ordinary Shares Issued	Nahiba (2022), Abd.Hamid et al. (2022)	

Sources: Empirical Survey (2026)

3.1 Model Specification

In line with the previous studies, the present study adapted and modified the model of Raghda (2023) in examining the relationship between biodiversity disclosures and firm financial performance. This is shown below as thus;

Raghda (2023): ROA = β_0 + β_1BIODIS + β_2Firm Size Log + β_3LEV + β_4 Inds Sector + β_5 Country + β_6Big4 + e

The econometric form of regression modified for the study is shown below as thus:

$$ROS_{it} = \beta_0 + \beta_1 BD_{it} + \varepsilon$$

$$NAPS_{it} = \beta_0 + \beta_1 BD_{it} + \varepsilon$$

Where:
ROS = Return on Sales
NAPS = Net Assets Per Share
BD = Biodiversity
μ = Stochastic Term
β_1 = Coefficient of Regression Equation
β_0 = Constant coefficient (intercept) of the model
'*A Priori*' is given as: β_0, $\beta_1 > 0$
Decision Rule: accept Ho if P-value >5% significant level otherwise reject Ho

4.0 ANALYSIS AND DISCUSSION

4.1 Descriptive Summary

Table 4.1.1: Descriptive Statistics

	ROS	NAPS	BD
Mean	0.687656	5.487783	2.367635
Median	0.498635	4.367522	2.108311
Maximum	0.876432	6.789263	3.000000
Minimum	0.046739	0.763573	1.000000
Std. Dev.	0.119737	0.376421	0.197364
Skewness	1.097463	0.786356	0.238763
Kurtosis	2.908732	2.487643	1.908633
Jarque-Bera	1.908463	0.587633	1.255634
Probability	0.897643	0.166526	0.986536
Sum	22.98756	36.63563	18.67843
Sum Sq. Dev.	0.847632	1.897633	23.48763
Observations	66	66	66

Source: E-View 12 Computational Results (2026)

From Table 4.1.1 above, it was found that financial performance of listed industrial goods firms in Nigeria is positively associated with the level of disclosures on biodiversity with a mean value of 0.69 and 5.49 for return on sales (ROS) and net assets per share (NAPS) respectively. Thus, implies that financial performance of industrial goods firms in Nigeria is determined by the level of biodiversity disclosures. The distribution for ROS and NAPS is platykurtic since the kurtosis (2.91) and (2.49) respectively is less than 3, implying that the outliers are few. However, the Jarque-Bera probability of 0.89 and 0.17 is greater than 5% level of significance adopted for the study, which means that the distribution of financial performance (ROS & NAPS) is not different from a normal distribution.

The mean value of biodiversity disclosure (BD) for the sampled firms was 2.37 with a standard deviation value of 0.20. This means that biodiversity disclosures is a determinant of financial performance of listed industrial goods firms in Nigeria. The high variation in maximum value of BD was 3.00 and the minimum

value of BD was 1.00 implies that the sampled firms' financial performance is determined by the level of information disclosure on biodiversity. The distribution for the study is platykurtic since the kurtosis (1.91) is less than 3, implying that the outliers are few. However, the Jarque-Bera probability of 0.99 is greater than 5% level of significance adopted for the study, which means that the distribution of biodiversity disclosures does not deviate from a normal distribution.

4.2: Test of Hypotheses

Regression Model was developed to test the linear relationship between the dependent and independent variables. It was operated using E-Views 12 as shown in the table 4.2.1–4.2.2 below:

Table 4.2.1: Result on Effect of Biodiversity Disclosures on Return on Sales of Listed Industrial Goods Firms in Nigeria (Model 1)

Dependent Variable: ROS
Method: Panel Least Squares
Date: 05/28/26 Time: 4:09
Sample: 2020-2025
Period included: 6
Cross-sections included: 11
Total panel (balanced) observations: 66

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BD	0.678376	0.131345	5.164840	0.0000
C	0.786536	0.111873	7.030615	0.0000

R-squared	0.675365	Mean dependent var	9.787635
Adjusted R-squared	0.619733	S.D. dependent var	0.364312
S.E. of regression	2.468734	Akaike info criterion	10.56253
Sum squared resid	0.878763	Schwarz criterion	12.09653
Log likelihood	9.675353	Hannan-Quinn criter.	11.38765
F-statistic	12.47647	Durbin-Watson stat	2.008734
Prob(F-statistic)	0.000000		

Source: Author's Computation (2026)

Table 4.2.2: Result on Effect of Biodiversity Disclosures on Net Assets Per Share of Listed Industrial Goods Firms in Nigeria (Model 2).

Dependent Variable: NAPS
Method: Panel Least Squares
Date: 05/28/26 Time: 4:12
Sample: 2020-2025
Period included: 6
Cross-sections included: 11
Total panel (balanced) observations: 66

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BD	0.257634	0.055623	4.631789	0.0000
C	2.276378	0.186733	12.19055	0.0000

R-squared	0.775364	Mean dependent var	2.876567
Adjusted R-squared	0.745763	S.D. dependent var	0.356763
S.E. of regression	0.644562	Akaike info criterion	8.655375
Sum squared resid	12.08644	Schwarz criterion	7.676732
Log likelihood	4.986744	Hannan-Quinn criter.	7.812432
F-statistic	11.98774	Durbin-Watson stat	1.898736
Prob(F-statistic)	0.000000		

Source: Author's Computation (2026)

4.3: DISCUSSION OF FINDINGS

The coefficient of determination R^2 shows 0.68 indicates that the model 1 explained 68 percent of the total variations in the dependent variable (ROS). Thus, shows that biodiversity disclosures can only explain 68 percent of change in return on sales of listed industrial goods firms in Nigeria leaving 32 percent unexplained. This is to say that there are other factors that could enable financial performance of listed industrial goods firms in Nigeria other than biodiversity reporting.

Also, the coefficient of determination R^2 shows 0.78 indicates that the Model 2 explained 78 percent of the total variations in the dependent variable (NAPS). Thus, shows that biodiversity disclosures can only explain 78 percent of change in net asset per share of listed industrial goods firms in Nigeria leaving 22 percent unaccounted for. This is to say that there are other factors that enables financial performance of listed industrial goods firms in Nigeria other than biodiversity reporting.

The results of the regression are therefore slated below as follows:

H_{01}: Biodiversity disclosure has no significant effect on return on sales of listed industrial goods firms in Nigeria

This hypothesis was tested and the result of this regression as exposited on table 4.2.1 indicates that the relationship between BD and ROS is positive and significant. This is justified with the P-value (significance) of 0.0000 which is less than the 1% level of significance adopted. Likewise; the result of positive coefficient of 0.678 indicates that an increase in biodiversity disclosures increases firm financial performance by 68% in Nigeria. We consequently accepted the alternate hypotheses which connotes that biodiversity disclosure has significant effect on return on sales of listed industrial goods firms in Nigeria. This aligns with the a priori expectations of Onipe (2026) and Hlel (2025) who found positive association between biodiversity disclosures and firm financial performance.

H_{02}: Biodiversity disclosure has no significant effect on net assets per share of listed industrial goods firms in Nigeria

This hypothesis was tested and the result of this regression as exposited on table 4.2.2 indicates that the relationship between BD and NAPS is positive and significant. This is justified with the P-value (significance) of 0.0000 which is less than the 1% level of significance adopted. Likewise, the result of positive coefficient of 0.258 indicates that an increase in friendly biodiversity activities increases firm financial performance by 26% in Nigeria. We consequently accepted the alternate hypotheses which denotes that biodiversity disclosure has significant effect on net assets per share of listed industrial goods firms in Nigeria. This is in consonance with the results of Watanabe et al. (2025) and Ma et al. (2025) who agreed that disclosure level on biodiversity has significant effect on firm financial performance.

5. CONCLUSION

The results of the study showed a positive and significant relationship between biodiversity disclosures and financial performance of listed industrial goods firms in Nigeria. Therefore, the study concludes that biodiversity disclosures influence financial performance of listed industrial goods firms in Nigeria.

5.1 RECOMMENDATION

In lieu of the findings of the study, the following recommendations were made;

1. Firms should establish systematic approaches to identifying, measuring, and managing biodiversity impacts and dependencies as such practices enables firm financial performance in Nigeria.
2. Firms should also move beyond symbolic disclosure towards substantive reporting that provides meaningful information about biodiversity policies, management practices and performance metrics as financial performance of firms largely depends on it.

REFERENCES

Abd. Hamid, S., Abdul Aziz, T., Dora, K., & Said, I. (2022). Intellectual capital disclosure and firms performance in France, *Journal of Economics, Finance and Management Sciences*, *4*(2), 95-111.

Adams, C. A., & Abhayawansa, S. (2022). Connecting the COVID-19 pandemic, environmental, social and governance (ESG) investing and calls for harmonization of sustainability reporting. *Critical Perspectives on Accounting*, *82*, 102309. https://doi.org/10.1016/j.cpa.2021.102309

Addison, P. F. E., Bull, J. W., & Milner-Gulland, E. J. (2019). Using conservation science to advance corporate biodiversity accountability. *Conservation Biology*, *33*(2), 307-318.

Adegbite, E., & Nakpodia, F. (2020). The institutional determinants of corporate governance in Nigeria. *The International Journal of Business in Society*, *20*(6), 1075–1096. https://doi.org/10.1108/CG-11-2019-0345

Ahmad, N., Mobarek, A., & Roni, N. N. (2021). Revisiting the impact of environmental disclosure on corporate financial performance: A meta-analysis. *Business Strategy and the Environment*, *30*(8), 3841–3858.

Bakkara, A., & Ningsih, B. S. (2024). The essential role of financial statements in evaluating financial performance. *Jurnal Penelitian Medan Agama, 15*(2). https://doi.org/10.58836/jpma.v15i2.22075

Bank of England. (2022). *Climate change, biodiversity loss, and the financial system*. Bank of England Staff Working Paper No. 987. https://www.bankofengland.co.uk/working-paper/2022/climate-change-biodiversity-loss-and-the-financial-system

Carvajal, M., Nadeem, M., & Zaman, R. (2022). Biodiversity disclosure, sustainable development and environmental initiatives: Does board gender diversity matter? *Bus Strateg Environ 31*(3), 969–987

Christensen, H. B., Serafeim, G., & Sikochi, A. (2021). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *The Accounting Review*, *97*(1), 147–175. https://doi.org/10.2308/TAR-2019-0506

Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2022). Accounting for the environment: A review of the academic literature. *Journal of Accounting Literature*, 44(1), 1–32. https://doi.org/10.1108/JAL-08-2021-0003

Deegan, C. (2019). Legitimacy theory: A financial reporting perspective. In S. O. Idowu, N. Capaldi, L. Zu, & A. D. Gupta (Eds.), *Encyclopedia of corporate social responsibility* (pp. 1–9). Springer.

Dias, M., Tchetchik, A., & Shani, A. (2021). Biodiversity reporting: A systematic literature review and future research directions. *Journal of Cleaner Production*, *315*, 128146. https://doi.org/10.1016/j.jclepro.2021.128146

Eze, E. D., & Nwankwo, S. U. (2022). Environmental reporting practices of listed manufacturing firms in Nigeria: A longitudinal analysis. *Journal of Accounting and Financial Management*, *8*(2), 45–62.

Ezejiofor, R. A., & Dibia, N. O. (2019). Effect of environmental accounting on financial performance of listed industrial goods firms in Nigeria. *International Journal of Advanced Academic Research*, *5*(6), 16–31.

Freeman, H. (1984). *Stakeholders theory*; theoretical perspective, New York: Harper and Row Inc.

Hassan, A., Roberts, L., & Atkins, J. (2020). Exploring factors relating to extinction disclosures: what motivates companies to report on biodiversity and species protection? *Bus Strategy Environ, 29*(3), 1419–1436

Hlel, K. (2025). Biodiversity impact reduction disclosure and firm performance: The role of governance quality. *International Journal of Economic Perspectives*, *19*(12), 1–18. https://ijeponline.org/index.php/journal/article/view/1218

Horsfall, K. A. (2022). Chapter 9: Overview of financial performance concept in organisations. *BW Academic Journal, 1*(1), 5.

Jones, M. (2014). *Accounting for biodiversity*. Routledge.

Jones, M. J., & Solomon, J. F. (2013). Problematising accounting for biodiversity. *Accounting, Auditing & Accountability Journal*, *26*(5), 668-687.

Luo, L., & Tang, Q. (2020). Carbon disclosure and financial performance: The moderating role of corporate governance. *Abacus*, *56*(3), 398–432.

Ma, C., Gao, L., Jiang, Y., & Ren, Y. S. (2025). How biodiversity information disclosures spill the beans on firm value? *Finance Research Letters, 85*, 108240. https://doi.org/10.1016/j.frl.2025.108240

Mata, D. D., Lai, T., Ecim, D., Maroun, W., & Cerbone, D. (2025). Biodiversity reporting: Comparing listed entities in the United Kingdom and South Africa. *South African Journal of Business Management, 56*(1), a4713.

Michelon, G., Trojanowski, G., & Sealy, R. (2021). Narrative reporting: State of the art and future challenges. *Accounting, Auditing & Accountability Journal*, *34*(6), 1372–1394. https://doi.org/10.1108/AAAJ-10-2020-4973

Nahiba, M (2022). Non-financial disclosures and performance of manufacturing firms in India, *Journal of Empirical Literature, 7*(9), 21-29.

Ofoegbu, G. N., & Odoemelam, N. (2020). Environmental disclosure and financial performance nexus: Evidence from Nigerian listed manufacturing firms. *Journal of Accounting and Taxation*, *12*(4), 101–114.

Ogundele, T. A., & Adegbite, E. (2023). Biodiversity loss and corporate accountability in Nigeria's extractive sector. *African Journal of Business and Economic Research*, *18*(1), 87–112.

Okonkwo, I. V., & Nweze, A. U. (2022). Supply chain risks and financial resilience in Nigerian industrial goods firms. *Journal of Supply Chain Management in Emerging Economies*, *8*(3), 210–229.

Okoye, E. I., & Odum, C. N. (2021). Corporate governance and sustainability reporting compliance among Nigerian listed firms. *Corporate Governance and Organizational Behavior Review*, 5(2), 48–62.

Olayinka, O. B., & Oyewumi, O. R. (2021). Disclosure indices and environmental reporting in Nigeria: Methodological challenges. *Journal of Financial Reporting and Accounting*, *19*(4), 588–607. https://doi.org/10.1108/JFRA-07-2020-0199

Oliveira, J., Rodrigues, L. L., & Craig, R. (2020). The level of risk management disclosure in Australia, *Managerial Auditing Journal*, *26*(9), 817–839.

Omaliko, E. (2026). NEO artificial intelligence investments and financial performance of listed deposit money banks in Nigeria. *International Journal of Innovative Finance and Economics Research, 14*(2), 71-82. https://doi.org/10.5281/zenodo.19514452

Onipe, A. (2026). Biodiversity reporting and firm financial performance: Evidence from Nigerian Listed Firms. *Journal of Sustainability and Accounting, 4*(2), 174–205

Raghda, A. (2023). Exploring the financial consequences of biodiversity disclosure: how does biodiversity disclosure affect firms' financial performance. *Elsayed Future Business Journal*, *9*(1):22. https://doi.org/10.1186/s43093-023-00202-7

Raheman, E., Salleh, E., Afz, M., & Chek, I. (2021). Non-financial information disclosure influence and its influence on firms' profitability in Malaysia? *International Journal of Academic Research in Accounting, Finance and Management Sciences, 4*(4), 297-306.

Roberts, L., Hassan, A., & Elamer, A. A. (2021). Biodiversity and extinction accounting: A systematic literature review and future research agenda. *Journal of Cleaner Production*, 290, 125758. https://doi.org/10.1016/j.jclepro.2020.125758

Rufaida, A. M. (2024). Company financial performance evaluation information. *Dirya: Journal of Economic Management, 1*(1), 24. https://doi.org/10.70283/dirya.v1i1.25

Rusu, R., & Oprean-Stan, C. (2024). A new conceptual framework for assessing corporate financial performance. A sustainable approach. *Management of Sustainable Development, 16*(2), 82–88. https://doi.org/10.54989/msd-2024-0017

Skouloudis, A., Malesios, C., & Dimitrakopoulos, P. G. (2019). Corporate biodiversity accounting and reporting in mega-diverse countries: An examination of indicators disclosed in sustainability reports. *Journal of Cleaner Production*, 133677.

Uwuigbe, U., Uwuigbe, O. R., Emmanuel, O., & Babatunde, M. (2020). Sustainability reporting and firm value: Evidence from selected Nigerian industrial goods firms. *IOP Conference Series: Earth and Environmental Science*, *555*(1), 012089.

Wang, A., Saqib, A., Chen, X., & Zhao, X. (2026). How biodiversity disclosure enhances ESG performance: The role of entrepreneurship and physical climate risk. *Finance Research Letters, 89*, C.

Watanabe, S., Isagawa, N., & Sekiguchi, T. (2025). Does biodiversity conservation pay off? an empirical analysis of Japanese firms. *Sustainability, 17*(17), 8051. https://doi.org/10.3390/su17178051

Zhang R (2023) The transition from biodiversity to extinction accounting in the Chinese context: Comparative CSR and sustainability. Routledge, USA