

Firm attributes and integrated reporting: empirical evidence from listed insurance companies in Nigeria

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Abstract

Purpose: This study examines the effect of firm attributes on integrated reporting among listed insurance companies in Nigeria. Specifically, the study investigates the effects of firm size, profitability, and leverage on integrated reporting.

Methodology: The study adopted an ex-post facto research design and a panel-data approach. The population comprised 22 listed insurance companies in Nigeria, from which 12 insurance companies were purposively selected. Secondary data were obtained from the audited annual reports of the sampled companies covering the period 2016–2025, yielding 120 firm-year observations. The data were analysed using descriptive statistics, diagnostic tests, the Hausman specification test, and random-effects panel regression with Driscoll–Kraay robust standard errors.

Results and conclusion: The findings reveal that firm size has a positive and significant effect on integrated reporting, while profitability has a negative but insignificant effect. Leverage has a negative and significant effect on integrated reporting. The study concludes that firm size and leverage significantly influence integrated reporting among listed insurance companies in Nigeria, whereas profitability does not significantly influence integrated reporting.

Implication of findings: The findings imply that larger insurance companies are more likely to provide comprehensive integrated reporting, while highly leveraged firms tend to provide less extensive reporting. Insurance companies should therefore strengthen their integrated reporting practices, particularly among smaller and highly leveraged firms. Regulatory authorities should also enhance monitoring and provide clearer guidelines to promote consistent and comprehensive integrated reporting practices.

Keywords: Integrated reporting, firm size, profitability, leverage.

1. INTRODUCTION

The global corporate reporting landscape has undergone significant transformation over the past two decades, evolving from a traditional emphasis on financial reporting towards more comprehensive reporting frameworks that integrate both financial and non-financial information. This transformation has been driven by increasing stakeholder demands for greater transparency, accountability, sustainability, and long-term value creation. Investors, creditors, regulators, employees, customers, and society increasingly require information beyond historical financial performance to understand how organisations create, preserve, and sustain value over time. Consequently, integrated reporting has emerged as an innovative corporate reporting framework that combines financial information with governance, strategy, risk management, environmental, social, and other value-relevant information within a single report. The International Integrated Reporting Framework, currently maintained by the IFRS Foundation, emphasises that integrated reporting promotes integrated thinking and enhances communication about how organisations create value over the short, medium, and long term (IFRS Foundation, 2021; Velte, 2022).

Integrated reporting has gained increasing global acceptance because conventional financial statements alone are no longer sufficient to satisfy the diverse information needs of stakeholders. By integrating financial and non-financial information, organisations provide a more comprehensive account of their

business models, governance structures, strategic objectives, risks, opportunities, and sustainability performance. Such reporting can enhance transparency, reduce information asymmetry, strengthen corporate accountability, improve investor confidence, and facilitate more informed economic decision-making. Consequently, integrated reporting has become an important mechanism for enhancing the quality of corporate reporting and supporting sustainable value creation across both developed and emerging economies (Raimo et al., 2021).

The adoption and quality of integrated reporting are influenced by several organisational characteristics, commonly referred to as firm attributes. Among these attributes, firm size, profitability, and leverage have received considerable attention because they influence firms' reporting capacity, disclosure incentives, and information requirements. Larger firms generally possess greater financial, technological, and managerial resources to implement comprehensive reporting practices and are subject to greater public scrutiny. Similarly, profitable firms may disclose more information to signal superior performance and enhance corporate reputation, while highly leveraged firms may provide more extensive disclosures to satisfy creditors' information requirements and mitigate agency conflicts. Although previous studies have identified these firm attributes as important determinants of integrated reporting, evidence regarding their effects remains mixed and inconclusive across different institutional settings (Velte, 2022; Thawani & Bhatia, 2024).

In Nigeria, increasing emphasis on corporate governance reforms, sustainability reporting, and corporate accountability has stimulated growing interest in integrated reporting. The insurance industry occupies a strategic position within the Nigerian financial system through its contributions to risk management, financial intermediation, long-term capital mobilisation, and economic development. Listed insurance companies operate under the regulatory oversight of the National Insurance Commission (NAICOM), the Nigerian Exchange Group (NGX), and the Financial Reporting Council of Nigeria (FRCN), while complying with International Financial Reporting Standards. Despite these regulatory developments, integrated reporting remains largely voluntary in Nigeria, resulting in considerable variations in the extent and quality of disclosures among listed insurance companies (NAICOM, 2023).

The relatively low and uneven adoption of integrated reporting among listed insurance companies has significant implications for investors, regulators, and other stakeholders. Limited integrated reporting may increase information asymmetry between management and stakeholders, weaken corporate accountability, constrain investors' ability to assess long-term value creation, and potentially undermine confidence in the Nigerian capital market. Furthermore, inadequate integration of financial and non-financial information may impede effective regulatory oversight and limit stakeholders' understanding of firms' governance practices, sustainability initiatives, and risk management strategies. Consequently, improving integrated reporting has become an important consideration for regulators and corporate managers seeking to strengthen transparency and accountability in corporate reporting (Adams, 2015; Velte, 2022).

Several empirical studies have examined the determinants of integrated reporting across different countries and industries. Existing studies have investigated the influence of corporate governance characteristics, ownership structure, board composition, audit quality, sustainability performance, and firm attributes on integrated reporting adoption and quality. However, empirical findings regarding the effects of firm size, profitability, and leverage remain inconsistent, with studies reporting positive, negative, and insignificant relationships. These inconsistencies suggest that the determinants of integrated reporting may be context-dependent and therefore warrant further empirical investigation, particularly within developing economies and industry-specific settings (Vitolla et al., 2020; Raimo et al., 2021).

Despite these contributions, important empirical, geographical, and sectoral gaps remain. Empirically, evidence regarding the influence of firm size, profitability, and leverage on integrated reporting remains inconclusive. Geographically, most empirical studies have been conducted in developed economies, with relatively limited evidence from Nigeria and other Sub-Saharan African countries. Sectorally, Nigerian studies have concentrated mainly on manufacturing firms, deposit money banks, and broader corporate reporting issues, with limited empirical attention devoted specifically to listed insurance companies. Consequently, there is inadequate evidence regarding how firm attributes influence integrated reporting within the Nigerian insurance industry, thereby necessitating further empirical investigation.

Against this background, this study examines the effect of firm attributes, specifically firm size, profitability, and leverage, on integrated reporting among listed insurance companies in Nigeria. The study is expected to contribute to the growing literature on integrated reporting by providing empirical evidence from an under-researched sector within an emerging economy. It will also offer useful insights to regulators, policymakers, corporate managers, investors, and other stakeholders regarding the strengthening of corporate reporting practices, transparency, and accountability.

2. LITERATURE REVIEW

2.1 *Empirical Review*

2.1.1 *Firm Size and Integrated reporting*

Empirical studies on the relationship between firm size and integrated reporting have produced mixed findings across developed and emerging economies. Firm size, commonly measured using the natural logarithm of total assets, sales, or market capitalization, is considered an important determinant of integrated reporting because larger firms have greater financial resources, sophisticated reporting systems, stronger governance structures, and greater visibility. They also face greater scrutiny from regulators, investors, creditors, and other stakeholders, which may increase their likelihood of providing comprehensive financial and non-financial disclosures. Consequently, several empirical studies have examined the influence of firm size on integrated reporting adoption, implementation, disclosure, and quality.

A substantial body of empirical literature reports a positive and significant relationship between firm size and integrated reporting. Frias-Aceituno et al. (2014) found that larger companies were more likely to adopt integrated reporting due to greater stakeholder pressure and stronger reporting capabilities. Ahmed Haji and Anifowose (2016) similarly reported that firm size positively influenced the extent of integrated reporting disclosures among South African listed companies. Kılıç and Kuzey (2018) found that larger firms produced higher-quality integrated reports due to stronger governance mechanisms and greater accountability. Adelowotan and Udofia (2021) found that firm size significantly enhanced integrated reporting implementation among Nigerian listed companies, while Alade and Odugbemi (2022) reported a significant positive effect on integrated reporting implementation among Nigerian listed oil and gas firms. Bhatia et al. (2023) found firm size to be a strong predictor of integrated reporting adoption among Indian listed firms, while Abdulfatah et al. (2023) reported a positive and significant influence among Nigerian non-financial firms. Similarly, Orjinta et al. (2024) found that firm size significantly and positively influenced integrated reporting among Nigerian listed banks.

However, some empirical studies have reported insignificant or negative relationships between firm size and integrated reporting. Cosma et al. (2018) found that the positive association between firm size and integrated reporting quality became statistically insignificant after incorporating corporate governance variables, suggesting that governance mechanisms may better explain reporting practices. Darminto et al. (2024) reported a negative relationship between firm size and integrated reporting among firms in

Southeast Asia, while Mahboub (2017) found no significant effect of firm size on integrated reporting quality/disclosure among firms in Lebanon. These findings suggest that the influence of firm size may depend on governance quality, ownership structure, profitability, industry characteristics, and the regulatory environment.

In conclusion, empirical evidence generally supports a positive influence of firm size on integrated reporting adoption, implementation, disclosure, and quality. However, the existence of insignificant and negative findings indicates that the relationship remains inconclusive across countries, industries, and institutional settings. This inconsistency suggests that firm size may not be a universal determinant of integrated reporting and justifies further investigation alongside other firm-specific attributes, particularly profitability and leverage, within the Nigerian insurance industry.

H₀₁: Firm size does not significantly affect integrated reporting among listed insurance companies in Nigeria.

2.1.2 Profitability and integrated reporting

Empirical studies examining the relationship between profitability and integrated reporting have produced diverse and sometimes contradictory findings across developed and emerging markets. Profitability, commonly measured using return on assets (ROA), return on equity (ROE), or net profit margin (NPM), is an important firm-specific characteristic influencing voluntary corporate disclosure. Highly profitable firms are generally expected to provide more comprehensive integrated reports because they seek to signal superior performance, strengthen stakeholder confidence, and enhance corporate reputation. Consequently, several studies have examined whether profitability influences integrated reporting adoption and quality.

Several empirical studies have documented a positive and significant relationship between profitability and integrated reporting. Frias-Aceituno et al. (2014) found that financially stronger firms were more likely to adopt integrated reporting because they possessed the resources required for comprehensive disclosure. Ahmed Haji and Anifowose (2016) similarly found that profitability positively contributed to integrated reporting practices among South African listed companies, although governance mechanisms had stronger explanatory power. Kılıç and Kuzey (2018) established that more profitable firms disclosed higher-quality integrated reports, suggesting that successful firms use integrated reporting to signal long-term value creation. Vitolla et al. (2020) also found that profitability significantly and positively influenced integrated reporting quality among financial institutions. Furthermore, Yahaya (2026) reported that profitability was associated with higher integrated reporting quality among Nigerian listed banks, supporting the view that financially successful firms are better positioned to support comprehensive integrated disclosure practices.

Conversely, some empirical studies have reported insignificant or negative relationships between profitability and integrated reporting. Raimo et al. (2021) found that the positive association between profitability and integrated reporting quality weakened after accounting for corporate governance and ownership characteristics, suggesting that governance mechanisms may play a more dominant role. Pillai and Seetah (2022) found that profitability did not significantly influence integrated reporting quality among financial firms across eighteen countries. Similarly, Songini et al. (2023) reported a negative relationship between profitability and integrated reporting quality, indicating that higher ROA and ROE did not necessarily result in better-quality integrated reports. More recently, Devarapalli et al. (2025) found no significant relationship between profitability and integrated reporting quality among Indian listed companies, while board size and firm size significantly enhanced reporting quality.

Overall, the empirical literature is largely dominated by studies supporting a positive relationship between profitability and integrated reporting. However, the presence of insignificant and negative findings indicates that profitability alone may not fully explain variations in integrated reporting practices. Its influence may instead depend on other firm-specific characteristics, particularly firm size and leverage, which affect firms' resources, financial capacity, and incentives for broader disclosure. Therefore, further empirical investigation of profitability alongside other key firm attributes remains necessary to improve understanding of the determinants of integrated reporting adoption and quality.

H₀₂: Profitability has no significant effect on integrated reporting among listed insurance companies in Nigeria.

2.1.3 Leverage and integrated reporting

Empirical studies examining the relationship between leverage and integrated reporting have produced mixed findings across different countries and institutional environments. Leverage, commonly measured by the debt-to-assets ratio, debt-to-equity ratio, or total liabilities to total assets ratio, reflects the extent to which a firm relies on debt financing. Highly leveraged firms are theoretically expected to provide more comprehensive integrated reporting to reduce information asymmetry, reassure creditors, and lower monitoring costs. Consequently, leverage has been widely examined as a determinant of integrated reporting adoption and disclosure quality.

Several empirical studies have reported a positive and significant relationship between leverage and integrated reporting. Frias-Aceituno et al. (2013) found that firms with higher debt levels were more likely to adopt integrated reporting because creditors demanded greater transparency regarding risk management and long-term value creation. Kılıç and Kuzey (2018) similarly established that highly leveraged firms produced more comprehensive integrated reports due to increased pressure from debt holders. Vitolla et al. (2020) found that financial leverage significantly enhanced integrated reporting quality among financial institutions, while Rastogi and Soriya (2025) reported a positive and significant effect of leverage on integrated reporting disclosure among Indian listed companies. Similarly, Al Amosh et al. (2022) found that financial leverage positively and significantly influenced integrated reporting disclosure among Jordanian industrial companies. More recently, Saji and Rajeev (2025) found that leverage was a significant determinant of integrated reporting disclosure among Indian listed companies, indicating that firms with higher debt levels were more likely to provide comprehensive reports to satisfy creditors and reduce agency costs.

However, other empirical studies have reported insignificant or negative findings regarding leverage and integrated reporting. Raimo et al. (2021) found that leverage did not consistently explain variations in integrated reporting quality after controlling for firm-specific and governance characteristics. Pillai and Seetah (2022) similarly reported that leverage had no significant influence on integrated reporting quality among financial firms across eighteen countries. Rahayuningsih and Pujiono (2019) also found no significant effect of leverage on integrated reporting among Indonesian companies in the IDX-30 index. In addition, Dragomir and Dumitru (2023), through a meta-analysis of 91 empirical studies, concluded that leverage was not significantly associated with integrated reporting quality, with governance variables emerging as stronger determinants. Furthermore, Songini et al. (2023) reported a negative relationship between leverage and integrated reporting quality, indicating that higher debt levels did not necessarily result in better-quality integrated reports.

In conclusion, the empirical evidence on leverage and integrated reporting remains inconclusive. While several studies support a positive association, suggesting that highly leveraged firms disclose more

information to satisfy creditors, reduce agency costs, and enhance transparency, others report insignificant or negative findings after accounting for governance and institutional factors. This suggests that leverage alone cannot adequately explain variations in integrated reporting adoption and quality. Its influence may instead depend on complementary organizational and institutional factors, including corporate governance, ownership structure, profitability, firm size, industry characteristics, and the regulatory environment.

H₀₃: There is no significance relationship between leverage and integrated reporting among listed insurance companies in Nigeria.

2.3 Theoretical Framework

This study is primarily anchored on Legitimacy Theory, advanced by Dowling and Pfeffer (1975), which posits that organisations seek to align their activities and disclosures with prevailing societal norms, values and expectations. Organisations operate within an implicit social contract with society and may use disclosure to maintain or restore legitimacy. In corporate reporting, integrated reporting provides a mechanism for demonstrating transparency, accountability and responsible organisational behaviour through the communication of financial and non-financial information relating to performance, governance, strategy, risks and value creation. Subsequent integrated reporting literature has identified Legitimacy Theory as an important perspective for explaining integrated reporting adoption and quality, particularly because firms may use disclosure to demonstrate conformity with societal expectations (Velte & Stawinoga, 2020; Lakhani et al., 2022).

Empirical evidence further supports the relevance of Legitimacy Theory to integrated reporting. Lai, Melloni and Stacchezzini (2016) examined integrated reporting as a potential legitimization strategy and found that conventional legitimacy proxies, including firm size, leverage and profitability, do not necessarily explain integrated reporting adoption across all institutional contexts. Ekhlaque et al. (2022) similarly employed legitimacy and stakeholder perspectives to examine corporate attributes and integrated reporting quality among listed South African firms, providing evidence that organisational characteristics are relevant to reporting practices. Legitimacy Theory therefore provides an appropriate primary foundation for this study because firm size, profitability and leverage may affect public visibility, monitoring, stakeholder scrutiny and pressure for transparent reporting.

The study is further supported by Stakeholder Theory, developed by Freeman (1984), which views organisations as accountable to diverse stakeholders, including investors, creditors, employees, regulators, customers, suppliers and society. Integrated reporting is consistent with this perspective because it communicates how organisations create, preserve or erode value over time while addressing the information needs of different stakeholder groups. Stakeholder-oriented research has demonstrated the relevance of stakeholder expectations to integrated reporting, while subsequent reviews have identified Stakeholder Theory as an important theoretical perspective in explaining corporate reporting practices (Vitolla et al., 2019; Lakhani et al., 2022). Stakeholder Theory therefore complements Legitimacy Theory by explaining reporting practices in terms of the information requirements and expectations of multiple stakeholder groups.

The third perspective is Signalling Theory, introduced by Spence (1973), which explains how organisations use voluntary disclosure to reduce information asymmetry and communicate credible information to less-informed parties. Firms may use high-quality integrated reporting to signal favourable performance, effective governance, sound risk management and sustainable value creation to investors and other stakeholders. Previous integrated reporting research recognises signalling theory as an important explanation for voluntary disclosure. Fuhrmann et al. (2019), for instance, adopted a

multi-theoretical framework incorporating signalling, legitimacy and stakeholder perspectives to explain integrated reporting decisions, while Lakhani et al. (2022) identified signalling theory among the prominent theories applied in integrated reporting and sustainability reporting research.

Collectively, Legitimacy Theory, Stakeholder Theory and Signalling Theory provide complementary explanations for variations in integrated reporting practices. Legitimacy Theory emphasises the need for societal acceptance and conformity with prevailing expectations; Stakeholder Theory focuses on the information needs and expectations of diverse stakeholder groups; while Signalling Theory explains voluntary disclosure as a means of reducing information asymmetry and communicating favourable organisational attributes. The combined perspectives therefore provide a sound theoretical basis for examining the influence of firm size, profitability and leverage on integrated reporting (Lakhani et al., 2022; Fuhrmann et al., 2019).

Larger firms may face greater public visibility and stakeholder scrutiny, profitable firms may have stronger incentives or capacity to communicate their performance and value-creation prospects, while highly leveraged firms may face greater information and monitoring demands from creditors. Nevertheless, the direction and magnitude of these relationships remain empirical questions because previous studies have reported context-specific findings. For example, Fuhrmann et al. (2019) reported associations between integrated reporting disclosure and several firm-level characteristics, whereas Lai et al. (2016) found that size, leverage and profitability did not consistently explain integrated reporting adoption. These mixed findings reinforce the need for further empirical investigation of the relationship between firm attributes and integrated reporting within the Nigerian insurance sector.

3. METHODOLOGY

The study adopted an ex post facto research design and panel data approach to examine the effect of firm characteristics on integrated reporting among listed insurance companies in Nigeria. From a population of 22 listed insurance companies, 12 were purposively selected based on data availability and consistency. Secondary data were obtained from audited annual reports covering 2016–2025, yielding 120 firm-year observations. Integrated reporting was measured using an Integrated Reporting Disclosure Index, while firm characteristics were proxied by firm size, profitability, and leverage. Data were analysed using descriptive statistics, diagnostic tests, and panel regression, with the appropriate model determined using the Hausman specification test. Driscoll–Kraay robust standard errors were employed to address heteroskedasticity, serial correlation, and cross-sectional dependence, with significance assessed at the 5% level.

Model Specification

Empirical model is specified as follow:

$$IR_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 PROF_{it} + \beta_3 LEV_{it} + \varepsilon_{it}$$

IR=Integrated Reporting, FSIZE=Firm Size, PROF= Probability, LEV= Leverage

Table 1: Measurement of Variables

Variables	Acronomy	Measurements	Empirical Sources
Integrated Reporting	IR	(Integrated Reporting Disclosure Index) Total disclosure Score ÷ Total applicable disclosure items based on the International Framework.	IFRS Foundation(2021); Alade & Odugbemi(2022);Bala & Ajayi(2022)Vitolla et al. (2020); Nguyen et al. (2021);
Firm Size	FSIZE	Natural Log of Total Assets	Alade & Odugbemi(2022); Al Amosh et al. (2022); Abdulfatah et al. (2023); Devarapalli & Mohapatra (2024),Agbaje & Josiah (2025). Udofia et al.(2025); Yahaya(2026)Radwan & Xiongyuan (2024); Soriya & Rastogi (2023); Hichri & Alqatan (2024); Razaq et al. (2023)
Profitability	PROF	Return on Assets (ROA)	Garba (2026); Bala & Ajayi(2022);Yahaya(2026)Devarapalli & Mohapatra (2024)
Leverage	LEV	Total Debts to Total Assets	

Source: Author's Compilation (2026)

4. Results and Discussion

4.1 Descriptive statistics

Descriptive statistics are used to summarize and describe the characteristics of the variables in this study. The analysis includes the mean, standard deviation, minimum, maximum, skewness, and kurtosis values, which provide insight into the central tendency, variability, distribution, and normality of the data. The results provide an overview of integrated reporting and the selected firm attributes among the sampled insurance companies and serve as a basis for interpreting the subsequent regression analysis.

Table 2: Discriptive statistics

Variables	OBS	Mean	Std. Dev	Min	Max	Skewness	Kurtosis
FSIZE	120	7.6375	0.4642	6.8465	9.0248	0.5157	-0.3763
PROF	120	0.0586	0.0631	-0.1034	0.3973	1.3913	7.0008
LEV	120	0.5463	0.1673	0.1440	0.8877	0.1624	-0.4859
IR	120	0.6765	0.1897	0.0000	0.8400	-3.0014	8.4426

Source: Author's Computation (2026)

The descriptive statistics reveal that the sampled firms have an average firm size (FSIZE) of 7.6375, with a standard deviation of 0.4642, indicating relatively low variation in firm size. Profitability (PROF) recorded a mean of 0.0586 and a standard deviation of 0.0631, suggesting an average profitability of approximately 5.86%, although some firms recorded negative profitability, as indicated by the minimum value of -0.1034. Leverage (LEV) has a mean of 0.5463 and a standard deviation of 0.1673, implying that the sampled firms have an average leverage level of approximately 54.63%. Integrated reporting (IR) recorded a mean of 0.6765 and a standard deviation of 0.1897, indicating an average integrated reporting level of approximately 67.65%.

The skewness values indicate that FSIZE (0.5157), PROF (1.3913), and LEV (0.1624) are positively skewed, although LEV is approximately symmetric, while IR (-3.0014) is strongly negatively skewed, suggesting that most observations are concentrated toward higher levels of integrated reporting. The kurtosis values of FSIZE (-0.3763) and LEV (-0.4859) indicate relatively flatter distributions, whereas PROF (7.0008) and IR (8.4426) show highly peaked distributions with heavier tails. Overall, the descriptive statistics indicate reasonable variation among the sampled firms, with noticeable differences in the distributional characteristics of the study variables.

Table 3: Pairwise Correlation Matrix

Variables	FSIZE	PROF	LEV
FSIZE	1.000		
PROF	0.174	1.000	
LEV	0.618	-0.194	1.000

Source: Author's Computation (2026)

Table 4: Tolerance and VIF

Variables	Tolerance	VIF
FSIZE	0.528	1.895
PROF	0.822	1.216
LEV	0.524	1.909

Source: Author's Computation (2026)

The pairwise correlation results show that the correlation coefficients among the independent variables range from -0.194 to 0.618. The highest correlation is between FSIZE and LEV ($r = 0.618$), which is below the commonly used threshold of 0.80, suggesting that there is no serious pairwise correlation problem among the explanatory variables.

The tolerance values range from 0.524 to 0.822, all of which are above the minimum threshold of 0.10. Similarly, the VIF values range from 1.216 to 1.909, which are substantially below the commonly accepted maximum threshold of 10 (and also below the more conservative threshold of 5). Therefore, the results indicate that multicollinearity is not a serious concern among FSIZE, PROF, and LEV, and the variables are suitable for inclusion in the regression model.

4.3 Panel regression analysis

The panel regression analysis examined the effects of firm attributes on integrated reporting among the sampled insurance companies. Based on the diagnostic test results, the appropriate panel estimation technique was employed to determine the direction, magnitude, and significance of the relationships and to test the study's hypotheses.

Table 7: Random Effect Regression Result with Driscoll-Kraay Standard Errors

Variables	Coefficient	DK Std. Error	T-statistic	P-value	Decision
Constant	-0.1561	0.0910	-1.717	0.120	Insignificant
FSIZE	0.1689	0.0377	4.478	0.002	Significant
PROF	-0.0218	0.0994	-0.220	0.831	Insignificant
LEV	-0.1922	0.0778	2.471	0.036	Significant
Wald χ^2	23.630				
P-value	<0.001				

Source: Author's Computation (2026)

The Random Effects regression with Driscoll–Kraay standard errors was employed to account for the cross-sectional dependence identified in the panel data. The results show that firm size has a positive and significant effect on integrated reporting ($\beta = 0.1689$, $p = 0.002$), while profitability has a negative but insignificant effect ($\beta = -0.0218$, $p = 0.831$). Leverage, on the other hand, has a negative and significant effect on integrated reporting ($\beta = -0.1922$, $p = 0.036$). The Wald chi-square statistic of 23.630 with a probability value below 0.001 indicates that the explanatory variables are jointly significant in explaining variations in integrated reporting.

The findings reveal that firm size (FSIZE) has a positive and statistically significant effect on integrated reporting (IR), indicating that larger insurance companies are more likely to provide extensive integrated reporting information than smaller firms. This suggests that firm size is an important determinant of integrated reporting practices among the sampled insurance companies. From the perspective of Legitimacy Theory, larger firms are more visible and face greater scrutiny from regulators, investors, customers, and society, creating stronger incentives to provide broader disclosures and maintain legitimacy. The finding is also consistent with Stakeholder Theory, as larger firms have wider and more diverse stakeholder groups whose information needs must be addressed. Consequently, larger insurance companies may use integrated reporting to communicate how they create and sustain value for stakeholders. The positive and significant result therefore supports the argument that organisational visibility and stakeholder pressure encourage more extensive integrated reporting. Consistent with this finding, (Frias-Aceituno et al., 2014; Ahmed Haji & Anifowose, 2016; Kılıç & Kuzey, 2018; Adelowotan & Udofia, 2021; Alade & Odugbemi, 2022; Bhatia et al., 2023; Abdulfatah et al., 2023; Orjinta et al., 2024) reported positive and significant relationships between firm size and integrated reporting. However, contrary evidence is provided by (Mahboub, 2017; Cosma et al., 2018; Darminto et al., 2024), who reported insignificant, mixed, or negative relationships.

In contrast, profitability (PROF) has a negative but statistically insignificant effect on integrated reporting. Although the relationship is negative, its insignificance indicates that profitability does not meaningfully influence the extent of integrated reporting among the sampled insurance companies. From the perspective of Legitimacy Theory, firms may not increase integrated reporting simply because they are more profitable, as legitimacy pressures may instead arise from regulatory expectations, public visibility, and stakeholder demands. Similarly, Stakeholder Theory suggests that firms have reporting responsibilities to stakeholders regardless of their profitability. Thus, the finding implies that integrated reporting may be influenced more by stakeholder information needs and legitimacy considerations than by short-term financial performance. Supporting this finding, (Raimo et al., 2021; Pillai & Seetah, 2022; Songini et al., 2023; Devarapalli et al., 2025) reported insignificant, mixed, or negative relationships between profitability and integrated reporting. However, the finding contrasts with (Frias-Aceituno et al., 2014; Ahmed Haji & Anifowose, 2016; Kılıç & Kuzey, 2018; Vitolla et al., 2020; Yahaya, 2026), who reported positive and significant relationships.

Furthermore, leverage (LEV) has a negative and statistically significant effect on integrated reporting, suggesting that insurance companies with higher leverage tend to provide lower levels of integrated reporting. This negative relationship may reflect the financial pressures associated with higher debt obligations, which may lead highly leveraged firms to focus on meeting financial commitments and managing creditor concerns. From the perspective of Legitimacy Theory, financial constraints associated with high leverage may reduce firms' capacity to provide broader reporting. Stakeholder Theory similarly suggests that highly leveraged firms have significant obligations to creditors and other finance providers, which may influence the type and extent of information prioritised in reporting. The significant negative relationship therefore indicates that financial structure is an important factor in determining integrated reporting practices. Unlike the present finding, (Frias-Aceituno et al., 2013; Kılıç

& Kuzey, 2018; Al Amosh et al., 2022; Vitolla et al., 2020; Saji & Rajeev, 2025; Rastogi & Soriya, 2025) reported positive and significant relationships between leverage and integrated reporting. However, the direction of the present finding is consistent with Songini et al. (2023), who reported a negative relationship, although their result was not statistically significant. Similarly, (Rahayuningsih & Pujiono, 2019; Raimo et al., 2021; Pillai & Seetah, 2022; Dragomir & Dumitru, 2023) reported insignificant relationships between leverage and integrated reporting.

5. Conclusion and Recommendations

The study concludes that firm size and leverage significantly influence integrated reporting among the sampled insurance companies, while profitability has no significant effect. Specifically, firm size has a positive and significant relationship with integrated reporting, indicating that larger insurance companies tend to provide more comprehensive integrated reporting. Conversely, leverage has a negative and significant effect, suggesting that highly leveraged firms tend to report less extensively. Profitability, although negatively related to integrated reporting, was statistically insignificant, implying that the level of profitability does not substantially determine the extent of integrated reporting. Overall, the significant Wald statistic confirms that the explanatory variables jointly contribute to explaining variations in integrated reporting.

Based on the findings, insurance companies should strengthen their integrated reporting practices regardless of their profitability or financial structure. Smaller firms should improve their reporting capacity through adequate training, resources and adoption of appropriate reporting frameworks, while highly leveraged firms should ensure that financial pressures do not compromise the quality and completeness of their disclosures. Regulatory authorities should also strengthen monitoring and provide clearer guidelines to promote consistent integrated reporting practices across the insurance industry. Management should further recognize integrated reporting as a strategic tool for enhancing transparency, accountability and stakeholder confidence rather than merely as a compliance requirement.

References

- Abdulfatah, L. A., Yahya, A. O., Agbi, S. E., & Tauhid, S. (2023). Effect of firm size on the relationship between managerial ownership and integrated reporting. *Global Journal of Accounting*, 8(2), 43–54.
- Adams, C. A. (2015). The International Integrated Reporting Council: A call to action. *Critical Perspectives on Accounting*, 27, 23–28.
- Adelowotan, M. O., & Udofia, I. E. (2021). Do corporate attributes drive integrated reporting amongst listed companies in Nigeria? *Journal of Economic and Financial Sciences*, 14(1), 1–13.
- Agbaje, T., & Josiah, M. (2025). Firm specific attributes and voluntary disclosure information: Evidence from listed manufacturing companies in Nigeria. *FUDMA Journal of Accounting and Finance Research*, 3(3), 187–201.
- Ahmed Haji, A., & Anifowose, M. (2016). The trend of integrated reporting practice in South Africa: Ceremonial or substantive? *Sustainability Accounting, Management and Policy Journal*, 7(2), 190–224.
- Alade, M. E., & Odugbemi, O. M. (2022). Corporate characteristics and implementation of integrated reporting framework of listed oil and gas firms in Nigeria. *International Review of Business and Economics*, 6(1), Article 23.
- Al Amosh, H., Khatib, S. F. A., & Ananzeh, H. (2022). Environmental, social and governance disclosure and integrated reporting: Evidence from emerging markets. *Sustainability*, 14, Article 13644. <https://doi.org/10.3390/su142013644>
- Bala, S. A., & Ajayi, O. E. (2022). The effect of integrated reporting disclosure and firms value of listed insurance company in Nigeria. *FUOYE Journal of Accounting and Management*, 5(1), 91–100.

- Bhatia, M., Mehrotra, V., & Thawani, B. (2023). Firm characteristics and adoption of integrated reporting: An emerging market perspective. *Global Business Review*. Advance online publication. <https://doi.org/10.1177/09721509231160872>
- Cosma, S., Soana, M. G., & Venturelli, A. (2018). Does the market reward integrated report quality? *African Journal of Business Management*, 12(4), 78–91.
- Darminto, D. P., Lysandra, S., Mulyadi, H. D., & Ahmar, N. (2024). Impact of integrated reporting on firm value and earnings quality as a moderator in Southeast Asia. *Investment Management and Financial Innovations*, 21(2), 191–204.
- Devarapalli, S., & Mohapatra, L. M. (2024). Impact of corporate governance characteristics on integrated reporting quality: An empirical analysis, evidence from India. *Indian Journal of Corporate Governance*, 17(1), 9–32.
- Devarapalli, S., Mohapatra, L. M., & Ajay, R. (2025). Determinants of integrated reporting quality: Evidence from Indian listed companies. *International Journal of Management Practice*, 18(2), 192–214.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18(1), 122–136.
- Dragomir, V. D., & Dumitru, M. (2023). Does corporate governance improve integrated reporting quality? A meta-analytical investigation. *Meditari Accountancy Research*, 31(6), 1846–1885.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman Publishing.
- Frias-Aceituno, J. V., Rodríguez-Ariza, L., & García-Sánchez, I. M. (2014). Explanatory factors of integrated sustainability and financial reporting. *Business Strategy and the Environment*, 23(1), 56–72.
- Fuhrmann, S. (2019). A multi-theoretical approach on drivers of integrated reporting-uniting firm-level and country-level associations. *Meditari Accountancy Research*, 28(1), 168–205.
- Hichri, A., & Alqatan, A. (2024). Exploring integrated reporting's influence on international firms' value relevance. *International Journal of Ethics and Systems*. Advance online publication. <https://doi.org/10.1108/IJOES-11-2023-0249>
- IFRS Foundation. (2021). *International Integrated Reporting Framework*. IFRS Foundation.
- Garba, M. S. (2026). Impact of firm size, firm age on the profitability of listed consumer goods firms in Nigeria. *FUDMA Journal of Accounting and Finance Research*, 4(1), 104–117.
- Kılıç, M., & Kuzey, C. (2018). Determinants of forward-looking disclosures in integrated reporting. *Managerial Auditing Journal*, 33(1), 115–144.
- Lai, A., Melloni, G., & Stacchezzini, R. (2016). Corporate sustainable development: Is “integrated reporting” a legitimization strategy? *Business Strategy and the Environment*, 25(3), 165–177.
- Lakhani, L., & Herbert, S. L. (2022). Theoretical frameworks applied in integrated reporting and sustainability reporting research. *South African Journal of Economic and Management Sciences*, 25(1), Article a4427.
- Mahboub, R. M. (2017). Main determinants of financial reporting quality in the Lebanese banking sector. *European Research Studies Journal*, 20(4B), 706–726.
- National Insurance Commission. (2023). *Annual report and financial statements 2023*. National Insurance Commission.
- Nguyen, H. C., Nguyen, P. M. H., Tran, B. H., Nguyen, T. T. N., Hoang, L. T. T., & Do, T. T. H. (2021). Integrated reporting disclosure alignment levels in annual reports by listed firms in Vietnam and influencing factors. *Meditari Accountancy Research*, 30(6), 1543–1570.
- Pillai, Y., & Seetah, K. (2022). Determinants of integrated reporting quality of financial firms. *The Indonesian Journal of Accounting Research*, 25(2), 281–308.
- Rahayuningsih, D., & Pujiono. (2019). The effect of company characteristics on integrated reporting disclosure. *Jurnal Akuntansi AKUNESA*, 7(3).

- Raimo, N., Vitolla, F., Marrone, A., & Rubino, M. (2021). The role of ownership structure in integrated reporting policies. *Business Strategy and the Environment*, 30(1), 517–530.
- Radwan, S. R. A., & Xiongyuan, W. (2024). The value relevance of integrated reporting quality: Evidence from Asia. *Journal of Financial Reporting and Accounting*, 22(2), 347–369.
- Razaq, A. G., Alhassan, A., & Ame, J. (2023). Effect of corporate attributes on sustainability reporting of listed non-financial firms in Nigeria. *FUDMA Journal of Accounting and Finance Research*, 1(2), 156–170.
- Rastogi, P., & Soriya, S. (2025). Analyzing the impact of corporate attributes on integrated reporting disclosures: A study of Indian listed companies. *International Journal of Accounting & Information Management*, 33(3), 494–512.
- Saji, T. G., & Rajeev Kumar, A. D. (2025). Beyond earnings: The synergistic effects of financial quality and sustainability disclosures on market valuation of manufacturing firms. *Corporate Social Responsibility and Environmental Management*, 32(6), 4788–4801.
- Songini, L., Pistoni, A., & Bavagnoli, F. (2023). The determinants of integrated report quality: Evidences from an empirical analysis. In *Sustainability Accounting, Management Control and Reporting* (pp. 113–144).
- Soriya, S., & Rastogi, P. (2023). The impact of integrated reporting on financial performance in India: A panel data analysis. *Journal of Applied Accounting Research*, 24(1), 199–216.
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355–374.
- Thawani, B., & Bhatia, M. (2024). Antecedents of integrated reporting adoption: Evidence from an emerging economy. *International Journal of Managerial and Financial Accounting*, 16(3), 330–352.
- Udofia, I. E., & Oboh, C. S. (2025). The effects of financial performance and corporate social responsibility on integrated reporting: The case of listed firms in Nigeria. *Africa Journal of Management*, 11(1), 83–103.
- Velte, P. (2022). Archival research on integrated reporting: A systematic review of main drivers and the impact of integrated reporting on firm value. *Journal of Management and Governance*, 26(4), 997–1061.
- Vitolla, F., Raimo, N., Rubino, M., & Garzoni, A. (2020). The determinants of integrated reporting quality in financial institutions. *Corporate Social Responsibility and Environmental Management*, 27(4), 1939–1952.
- Yahaya, O. A. (2026). Integrated reporting quality and its effect on the financial performance of Nigerian listed firms. *Journal of Accounting and Finance Research*, 6(3), 41–69.