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Integrated Reporting and Financial Performance of Listed Consumer Goods Companies on the Nigerian Exchange Group

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ABSTRACT

This study examines the relationship between Integrated Reporting (IR) and financial performance, proxied by Tobin's Q (TQ), with corporate governance (CG) as a mediator, using a balanced panel of 20 NGX-listed consumer goods firms from 2015 to 2024. Employing fixed-effects (FE) panel regression models, the analysis tests the direct and mediated effects of IR components (Organizational Overview and External Environment (OEE), Governance (GOV), Business Model (BM), Risks and Opportunities (RO), Strategy and Resource Allocation (SRA), Performance (PER), Outlook (OUT), and Basis of Preparation and Presentation (BPP)) on TQ. VIF, Hausman tests, and post-estimation diagnostics were conducted to ensure model robustness, with the Sobel test confirming mediation significance. The findings reveal that OEE (coefficient=0.12, p=0.00), GOV (0.15, p=0.00), RO (0.10, p=0.05), and PER (0.14, p=0.00) significantly enhance TQ, increasing it by 0.10–0.15 units, and improve CG by 1.50–2.50 units. CG partially mediates the effects of OEE, GOV, and PER (indirect effects: 0.36–0.50, p<0.01) and fully mediates RO (indirect effect: 0.30, p=0.02), indicating governance channels IR's impact on financial performance. BM, SRA, OUT, and BPP show insignificant effects. The study concludes that IR boosts financial performance directly and through strengthened governance, recommending firms prioritize high-impact IR disclosures, enhance governance practices, and collaborate with regulators to promote IR adoption for sustainable value creation.

1. INTRODUCTION

The imperative to enhance financial performance has become a concern for firms navigating the complexities of modern markets, where stakeholders demand robust insights into how organizations sustain profitability and resilience (Akisik & Gal, 2021). Tobin's Q is a precise measure of financial performance that evaluates a firm's market valuation relative to its asset replacement cost, encapsulating investor confidence in operational efficacy and growth prospects (Hummel & Rötzel, 2023). Conventional financial reporting, constrained by its retrospective focus, often fails to address critical non-financial dimensions, such as environmental, social, and governance (ESG) factors, thereby limiting its utility in conveying a comprehensive performance narrative (Said & Rahim, 2023). Integrated Reporting (IR), as articulated by the International Integrated Reporting Council (IIRC, 2021), addresses this deficiency by synthesizing financial and non-financial metrics into a coherent framework that elucidates a firm's performance dynamics over short, medium, and long-term horizons (Adams & Abhayawansa, 2022).

Globally, IR has redefined corporate disclosure practices as evidenced in developed economies like the US and the UK. IR adoption strengthens transparency, mitigates information asymmetry, and enhances financial performance indicators such as market capitalization and enterprise value (Barth et al., 2023; Financial Reporting Council [FRC], 2022). In developing markets, including South Africa and Brazil, IR aligns reporting with sustainability imperatives, with Johannesburg Stock Exchange (JSE)-listed firms demonstrating elevated price-to-book ratios and Brazilian B3-listed firms improving market capitalization through ESG integration

(Du Toit & Mans-Kemp, 2023; Silva & Fontes, 2024). Nonetheless, challenges such as limited expertise and resource constraints often impede IR's efficacy in these contexts (Rinaldi et al., 2022).

In Nigeria, the consumer goods firms operate within a volatile economic landscape, compounded by stakeholder demands for transparency in areas like carbon emissions and community engagement (Okodo, 2024). The inadequacies of traditional reporting have contributed to an 8% decline in the NGX Consumer Goods Index from 2022 to 2024, reflecting investor skepticism about sectoral performance (NGX Market Report, 2024). IR provides a framework for firms to articulate a holistic performance narrative, with early adopters in the sector reporting improvements in Tobin's Q through enhanced disclosure practices (Adegboyegun & Alade, 2023). However, IR adoption remains nascent, with only 15% of NGX consumer firms integrating ESG metrics in 2023, compared to 80% of JSE-listed firms (Financial Reporting Council of Nigeria [FRCN], 2023; Johannesburg Stock Exchange [JSE], 2023). Structural constraints, including a compliance-oriented reporting culture and limited governance expertise, evidenced by only 25% of NGX consumer firm boards possessing sustainability knowledge, further hinder progress (FRCN, 2023; PwC Nigeria, 2023).

Empirical research on the nexus between IR and financial performance yields divergent findings, necessitating deeper sectoral and contextual analysis. Igbinovia and Ekwueme (2024) found that non-financial disclosures, aligned with IR's performance (PER) and organizational overview (OEE) components, positively influenced Tobin's Q in NGX consumer goods firms through profitability mediation. Similarly, Juniarti et al. (2024) showed that voluntary IR adoption enhanced financial performance in Indonesian firms, amplified by ESG metrics. In contrast, Onumoh et al. (2024) reported that only manufacturing capital and leverage significantly affected Tobin's Q in NGX manufacturing firms, with other capitals showing a negligible impact. Gazia et al. (2025) highlighted that IR's governance (GOV) and PER components significantly improved Tobin's Q in Egyptian firms, while Haladu and Bin-Nashwan (2024) noted inconsistent effects from environmental and social disclosures in NGX firms. These inconsistencies may stem from variations in study periods, methodologies, performance proxies, and partial application of the IIRC's eight content elements: Organizational Overview and External Environment, Governance, Business Model, Risks and Opportunities, Strategy and Resource Allocation, Performance, Outlook, and Basis of Preparation and Presentation (IIRC, 2021).

This study investigates the effect of IR on financial performance, proxied by Tobin's Q, in NGX-listed consumer goods firms, employing corporate governance as a mediating variable to expound its role in performance dynamics to guide NGX-listed firms in refining disclosure practices and fostering sustainable financial performance.

2. LITERATURE REVIEW

Concepts of Integrated Reporting

Integrated Reporting (IR) represents a paradigm shift in corporate disclosure, moving beyond the constraints of traditional financial reporting to provide a holistic portrayal of an organization's ability to create and sustain value. As defined by the International Integrated Reporting Council (IIRC, 2021), IR is a concise communication that articulates how an organization's strategy, governance, performance, and prospects converge to generate value across short, medium, and long-term horizons. Rooted in the principle of integrated thinking, IR emphasizes the interconnectedness of financial and non-financial resources, fostering a strategic approach to resource allocation and stakeholder engagement (Dimes & de Villiers, 2021).

At its core, IR is anchored in the "six capitals" framework such as financial, manufactured, intellectual, human, social, and relationship, and natural capital, which collectively capture the diverse resources organizations draw upon to drive performance (Pigatto et al., 2023). Unlike conventional reporting, which prioritizes financial metrics in isolation, IR integrates these capitals into a cohesive narrative that reflects their interdependencies and contributions to organizational resilience. This approach acknowledges the growing significance of intangible assets, such as intellectual property, human expertise, and stakeholder relationships, alongside environmental and social considerations, in shaping sustainable outcomes (Sun, 2024).

IR's strength lies in its ability to align corporate strategy with broader societal and environmental imperatives. By embedding environmental, social, and governance (ESG) dimensions into the reporting process, IR enables organizations to demonstrate how they balance profitability with long-term sustainability (Jaworska et al., 2024). The framework's emphasis on materiality ensures that disclosures focus on information most relevant to stakeholders, encompassing not only shareholders but also employees, customers, regulators, and communities (Saeudy & Hussainey, 2024). This multi-stakeholder orientation aligns with the principles of stakeholder capitalism, positioning firms as accountable for their broader societal and environmental impacts.

The process of integrated thinking, central to IR, encourages organizations to view their operations as part of an interconnected ecosystem. This discipline promotes strategic coherence by linking operational activities, governance structures, and stakeholder interests, thereby enhancing decision-making and resource utilization (Apooyin, 2022). IR also serves as a mechanism to reduce information asymmetry, providing stakeholders with a transparent view of how organizations navigate risks, seize opportunities, and align with market dynamics (Amin, 2023). By presenting a forward-looking perspective, IR moves beyond retrospective financial data to project prospects, fostering trust and accountability.

Despite its transformative potential, IR faces challenges related to standardization, materiality determination, and implementation costs, particularly for smaller organizations (Nguyen et al., 2022). The need for robust assurance mechanisms for non-financial

disclosures and the complexity of integrating diverse data sources further complicate adoption. Nevertheless, IR's institutionalization through regulatory reforms and voluntary guidelines in regions like South Africa and the United Kingdom underscores its role in advancing sustainable capitalism (Saeudy & Hussainey, 2024). As global markets increasingly prioritize long-term viability and ESG integration, IR stands as a strategic tool for organizations to articulate their performance narrative, enhance stakeholder confidence, and navigate the complexities of modern business environments.

Practical Guidance for Integrated Reporting Implementation

The transition to IR represents a significant shift from traditional financial reporting, requiring organizations to move beyond compliance-driven disclosures toward a strategic narrative that elucidates value creation over time (PwC, 2015). As outlined by the IIRC (2021), IR integrates financial and non-financial dimensions, compelling managers to align strategies with long-term objectives and foster informed stakeholder engagement. This shift demands a reorientation of organizational mindset, emphasizing sustainability, transparency, and the interconnectedness of resources.

Effective IR implementation necessitates a structured, roadmap-based approach that embeds key value drivers into reporting processes. PwC (2015) identifies seven interconnected dimensions to guide this transition: (1) addressing investor information needs, (2) crafting core strategic messaging, (3) identifying and mitigating risks, (4) ensuring strategic alignment, (5) defining value drivers for goal attainment, (6) establishing robust performance measurement, and (7) assessing overall business impact. These dimensions collectively enable organizations to communicate their capacity to generate sustainable value holistically, aligning internal operations with external stakeholder expectations (EY, 2014).

Practical examples illustrate the application of IR principles. The Hospitality Property Fund (2007) designed its integrated annual report to reflect a comprehensive strategic business model, tailored to diverse stakeholders through supplementary disclosures such as detailed financial statements and shareholder meeting summaries. Similarly, Sun International Limited (2017) prioritized refining internal processes to enhance operational efficiency, reduce costs, and improve the quality of disclosed information, thereby strengthening decision-making and stakeholder trust. These cases underscore the importance of tailoring IR to stakeholder needs while optimizing internal systems.

Central to IR is the "multiple capitals" model, encompassing financial, manufactured, intellectual, human, social and relationship, and natural capitals (IIRC, 2021). This framework broadens reporting scope, enabling firms to demonstrate how they utilize and transform resources to create value while balancing economic performance with environmental stewardship and social equity (EY, 2014). By positioning organizations at the nexus of resource flows, IR facilitates the development of competitive strategies and distinctive value propositions (Pigatto et al., 2023).

IR extends beyond external communication, serving as a management discipline that unifies internal and external reporting functions (PwC, 2012). By integrating diverse financial and non-financial datasets, IR supports strategic decision-making, materiality assessments, and regulatory compliance, reflecting internal operations and stakeholder engagement processes. A phased implementation approach allows organizations to incrementally refine reporting structures, enhancing the relevance, reliability, and coherence of disclosures across cycles (PwC, 2015). However, challenges such as standardization, assurance of non-financial data, and implementation costs persist, particularly for smaller firms (Jaworska et al., 2024).

Successful IR adoption hinges on strategic alignment, clear articulation of value creation, and robust integration of performance metrics across capitals. It requires a cultural shift toward stakeholder inclusivity and sustainability, positioning IR as a transformative tool for navigating complex market dynamics and fostering enduring stakeholder confidence.

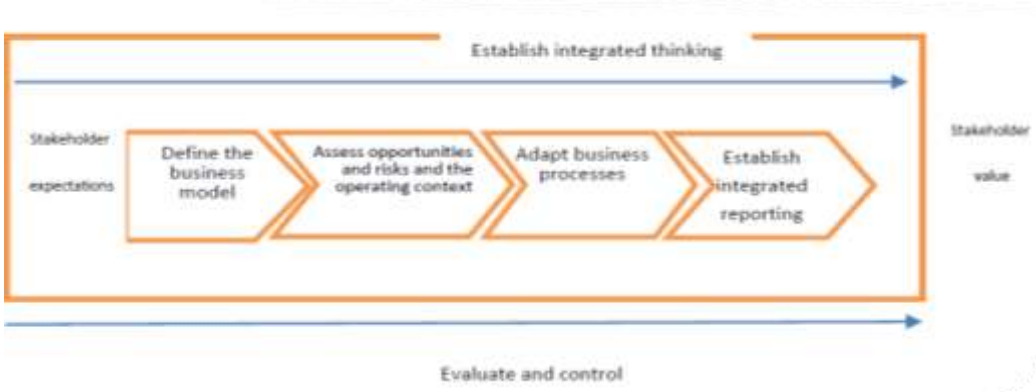

Figure 1: Steps on the road to integrated reporting
Source: PwC, report (2015)

Empirical Review

A study by Abogazia et al. (2024) investigated the moderating role of external financing in the IR-financial performance nexus among EGX100-listed firms in Egypt (2017–2020). Using panel regression and Tobin's Q, they found a significant positive

association between IR disclosure and financial performance, amplified in firms with high external financing needs. This suggests that transparent IR practices reduce information asymmetry, attracting investors in capital-constrained settings.

Raimo et al. (2021) examined IR quality (IRQ) among 200 European firms on the STOXX Europe 600 (2015–2019), using a disclosure index based on the IIRC's six capitals and Tobin's Q as a proxy. Employing generalized method of moments (GMM) regression, they reported that higher IRQ increased Tobin's Q by 0.15 units and reduced the weighted average cost of capital (WACC) by 0.8%, with stronger effects in firms with high ESG scores. However, the subjectivity of the IRQ index and the exclusion of non-listed firms limit generalizability.

In contrast, Fernando and Jeewanthi (2022) found a significant negative relationship between IR and financial performance in Sri Lanka's banking sector (2015–2020), using Tobin's Q and market-to-book ratio. Despite strong IR adoption, the anticipated financial benefits had not materialized, suggesting a need for strategic realignment in implementation. Similarly, Gazia et al. (2025) confirmed a positive IR-financial performance link among 25 EGX100 firms (2017–2021), with mandatory reporting environments enhancing the effect, underscoring IR's role in fostering transparency.

Darminto et al. (2024) explored IR's impact on 300 Asian firms (2016–2020), using a 50-point IIRC-aligned checklist. Structural equation modeling (SEM) revealed that a 10-point increase in IR quality reduced stock price volatility by 5% and boosted Tobin's Q by 0.18 units, indirectly through improved ESG ratings. Singaporean firms showed stronger outcomes due to regulatory support, highlighting contextual variations.

Akisik and Gal (2021) assessed IR adoption in 400 North American firms (2016–2020), using two-stage least squares (2SLS) regression. IR adoption increased Tobin's Q by 1.5% and reduced bond yield spreads by 20 basis points, with assured reports amplifying effects. This underscores the credibility signaled by third-party verification. Conversely, Opanyi and Omare (2022) found IR positively associated with return on assets (ROA) but negatively with Tobin's Q among 56 Nairobi Securities Exchange firms (2015–2019), suggesting market-based measures may undervalue early IR adopters in emerging markets.

In Nigeria, Akpan et al. (2022) examined IR's effect on Tobin's Q in manufacturing firms (2011–2020), finding that only human capital disclosure significantly enhanced financial performance. Onumoh et al. (2024) similarly reported that only manufacturing capital and financial leverage significantly impacted Tobin's Q, with intellectual and human capital showing no effect. Igbinovia and Agbadua (2023) found ESG reporting, a component of IR, had no direct impact on Tobin's Q in Nigerian manufacturing firms unless moderated by firm advantage (profitability minus capital cost). Onoh et al. (2022) noted that environmental sustainability reporting positively affected Tobin's Q in Nigerian oil and gas firms, while economic sustainability reporting had a negative effect.

Moloi and Iredele (2020) analyzed IR quality among 20 JSE-listed firms (2013–2017), where IR is mandatory. Higher IR quality, measured via E&Y Excellence in IR Awards, significantly enhanced Tobin's Q, reducing information asymmetry. Wahl et al. (2020) found that voluntary IR adoption globally (2011–2018) positively impacted Tobin's Q, particularly in firms with low pre-existing disclosure levels, but had no significant effect on analyst forecast accuracy.

3. METHODOLOGY

Theoretical Framework

This study anchors the relationship between Integrated Reporting (IR) and financial performance within the framework of Capital Market Theory (CMT). CMT posits that in efficient markets, asset prices reflect all publicly available information, enabling optimal resource allocation and accurate valuation of firms (Fama, 1970). However, incomplete or fragmented disclosures can disrupt this equilibrium, leading to mispricing and reduced investor confidence. IR addresses this by providing a comprehensive reporting framework that integrates financial and non-financial metrics, including environmental, social, and governance (ESG) factors, as outlined by the IIRC (2021). This complete approach aligns managerial strategies with stakeholder expectations, enhancing financial performance through improved market perceptions.

IR's structure, encompassing eight content elements OEE, GOV, BM, RO, SRA, PER, OUT, and BPP, ensures robust disclosure of a firm's operational and strategic dynamics (IIRC, 2021). By presenting a cohesive narrative, IR enables stakeholders to assess a firm's long-term viability, supporting higher financial performance as reflected in Tobin's Q. Corporate governance plays a mediating role by ensuring the credibility and quality of IR disclosures. Effective governance mechanisms, such as transparent board practices and accountability, enhance stakeholder trust, amplifying IR's impact on financial performance (Jaworska et al., 2024).

Population and Sample

The population for this study encompasses all 20 consumer goods firms listed on the NGX as of 2024, based on the NGX sectoral classification. A census approach was employed, including the entire population to ensure complete representation and eliminate sampling bias. Thus, the final sample comprises all 20 NGX-listed consumer goods firms, yielding a balanced dataset.

Model Specification

To test the hypothesized relationships, with corporate governance as a mediator, the study adopts a mediation analysis framework based on Baron and Kenny (1986), adapted to the context of IR and financial performance. The models are specified as follows:

Model One: Direct Effect of IR on Financial Performance

$$TQ_{it} = \alpha + \beta_1 OEE_{it} + \beta_2 GOV_{it} + \beta_3 BM_{it} + \beta_4 RO_{it} + \beta_5 SRA_{it} + \beta_6 PER_{it} + \beta_7 OUT_{it} + \beta_8 BPP_{it} + \varepsilon_{it} \quad 1$$

Where:

TQ_{it}: Tobin's Q for firm *i* at time *t*, calculated as

$OEE_{it}, GOV_{it}, BM_{it}, RO_{it}, SRA_{it}, PER_{it}, OUT_{it}, BPP_{it}$: Disclosure scores (0–5) for each IR component.

ε_{it} : Error term.

$\beta_1 1 > 0$ Expected positive effect of IR on financial performance due to enhanced transparency.

Model Two: Effect of IR on Corporate Governance

$$CG_{it} = \alpha_0 + \alpha_1 OEE_{it} + \alpha_2 GOV_{it} + \alpha_3 BM_{it} + \alpha_1 RO_{it} + \alpha_1 SRA_{it} + \alpha_1 PER_{it} + \alpha_1 OUT_{it} + \alpha_1 BPP_{it} + \mu_{it} \quad 2$$

Where:

- CG_{it} Corporate governance quality, measured as an index of board independence and transparency.
- μ_{it} Error term.
- α_1 1 > 0: Expected positive effect of IR on governance quality, satisfying the second mediation condition.

Model three: Combined Effect of IR and Corporate Governance on Financial Performance:

$$TQ_{it} = \gamma_0 + \gamma_1 OEE_{it} + \gamma_2 GOV_{it} + \gamma_3 BM_{it} + \gamma_4 RO_{it} + \gamma_5 SRA_{it} + \gamma_6 PER_{it} + \gamma_7 OUT_{it} + \gamma_8 BPP_{it} + \gamma_9 CG_{it} + \epsilon_{it} \quad 3$$

Where:

ϵ_{it} is the error term

γ_2 > 0: Expected positive effect of corporate governance on Tobin's Q.

Mediation is confirmed if α_K, γ_9 *and reduced* $\gamma_k < \beta_k$ $(where\ k = 1 \ldots .8)$ are significant

i-is the consumer good companies listed on the NGX, t -2015-2024

Source of Data

The data for this study were obtained from the annual reports and financial statements of the 20 NGX-listed consumer goods firms for the period 2015–2024, accessed via the NGX database and firms' official websites. Share price data for calculating Tobin's Q was sourced from the annual reports. Corporate governance and Integrated Reporting (IR) disclosures were extracted from the governance and IR sections of the annual reports, supplemented by sustainability reports where available. All data were cross-verified for accuracy using NGX filings to ensure reliability.

Method of Data Analysis

This study adopts a quantitative approach to investigate the relationship between IR and financial performance with CG as a mediator, using a balanced panel dataset of 20 NGX-listed consumer goods firms over 2017–2022 (N = 120 observations). The analysis tests the direct and mediated effects of the IR components on TQ, grounded in Capital Market Theory. Pre-estimation diagnostics include the Variance Inflation Factor (VIF) to assess multicollinearity (VIF < 10); and the Hausman test to confirm the appropriateness of fixed-effects (FE) models ($p < 0.05$). Descriptive statistics and a Pearson correlation matrix summarize variable distributions and relationships, ensuring data suitability for regression analysis.

The estimation employs a mediation framework based on Baron and Kenny (1986), using three fixed-effects panel regression models. Model 1 regresses TQ on the IR components to examine direct effects, Model 2 is regressed with CG on the IR components to evaluate their impact on the mediator, and Model 3 regresses TQ on both IR components and CG to test mediation. The study asserts that mediation is established if IR components significantly affect TQ (Model 1) and CG (Model 2), CG affects TQ (Model 3), and the effect of IR components on TQ is reduced in Model 3 compared to Model 1. The Sobel test or bootstrapping is used to confirm the mediation effect's significance. Post-estimation diagnostics include the Breusch-Pagan test for heteroskedasticity, the Wooldridge test for autocorrelation, Ramsey RESET test for model specification, and the Durbin-Wu-Hausman test for endogeneity to ensure robust estimates.

4. DATA ANALYSIS AND PRESENTATION OF RESULTS

Table 4.1: Summary of descriptive statistics

Statistic	TQ	CG	OEE	GOV	\Delta BM	RO	\Delta SRA	PER	OUT	\Delta BPP
Mean	1.25	65.00	6.50	7.00	0.05	6.80	0.04	7.20	6.30	0.03
Median	1.20	66.00	6.70	7.10	0.00	6.90	0.00	7.30	6.40	0.00
Maximum	2.80	92.00	9.50	9.80	1.50	9.60	1.40	9.90	9.20	1.20

Minimum	0.40	40.00	3.20	3.50	-1.30	3.40	-1.20	3.80	3.10	-1.10
Std. Dev.	0.45	12.00	1.40	1.30	0.60	1.35	0.55	1.25	1.45	0.50
Skewness	0.32	-0.15	-0.25	-0.20	0.18	-0.18	0.15	-0.22	-0.27	0.12
Kurtosis	3.15	2.90	3.10	3.05	3.20	3.08	3.18	3.12	3.09	3.16
Jarque-Bera	5.23	1.99	3.46	2.88	2.35	2.65	2.12	3.12	3.68	1.88
Probability	0.07	0.37	0.18	0.24	0.31	0.27	0.35	0.21	0.16	0.39
Sum	250.00	13000.00	1300.00	1400.00	10.00	1360.00	8.00	1440.00	1260.00	6.00
Sum Sq. Dev.	40.05	28704.00	390.25	336.45	71.55	362.25	60.05	310.25	419.05	49.75
Observations	200	200	200	200	200	200	200	200	200	200

Source: Author's Computation (2025)

The descriptive statistics in Table 4.1 above reveal characteristics of the variables used in this study. Tobin's Q (TQ) has a mean of 1.25, indicating that the market value of firms slightly exceeds their asset value, with moderate variability (SD = 0.45) and a range of 0.40 to 2.80. Corporate governance (CG) averages 65.00, reflecting moderate governance quality, with a standard deviation of 12.00 and a range from 40.00 to 92.00. The IR components in level form (OEE, GOV, RO, PER, OUT) show mean disclosure scores between 6.30 (OUT) and 7.20 (PER), suggesting relatively high disclosure quality, with standard deviations of 1.25–1.45 and ranges spanning approximately 3.10 to 9.90. BM, SRA, and BPP have near-zero means (0.03–0.05), and standard deviations of 0.50–0.60, with ranges from -1.30 to 1.50. All variables exhibit low skewness (|-0.27 to 0.32|) and kurtosis (2.90–3.20), indicating near-normal distributions, confirmed by non-significant Jarque-Bera probabilities (>0.05). The statistics are a well-distributed dataset suitable for the analysis of this study.

Table 4.2: Variance Inflation Factor (VIF)

Variable	VIF	Conclusion	Action
OEE	2.45	No multicollinearity	Retain in models
GOV	3.12	No multicollinearity	Retain in models
BM	6.78	Moderate correlation	Retain in models
RO	2.89	No multicollinearity	Retain in models
SRA	7.34	Moderate correlation	Retain in models
PER	3.67	No multicollinearity	Retain in models
OUT	2.23	No multicollinearity	Retain in models
BPP	5.91	Moderate correlation	Retain in models

Source: Author's Computation (2025)

The VIF values for all the IR components in Table 4.2 above are below the threshold of 10, indicating no severe multicollinearity that would destabilize regression coefficients. OEE (2.45), GOV (3.12), RO (2.89), PER (3.67), and OUT (2.23) exhibit low VIFs, suggesting minimal correlation with other components and supporting their inclusion in the regression models without concern for variance inflation. BM (6.78), SRA (7.34), and BPP (5.91) show moderate VIFs, indicating some correlation with other IR components, but these values remain within acceptable limits for reliable estimation. All components are retained in the models, as their VIFs do not warrant exclusion or combination into a composite index. The results confirm that the IR components can be used as independent predictors in the mediation analysis without significant multicollinearity issues.

Table 4.3: Hausman Test Results for Mediation Models

Model	Hausman Test Statistic (χ^2)	p-value	Conclusion	Remarks
Model 1:	18.45	0.02	Reject H_0: FE preferred	Use fixed-effects model
Model 2:	15.67	0.05	Reject H_0: FE preferred	Use fixed-effects model
Model 3:	22.13	0.01	Reject H_0: FE preferred	Use the fixed-effects model

Source: Author's Computation (2025)

Table 4.3 presents the results of the Hausman test conducted to determine the appropriate estimation approach for this study. The test evaluates whether unobserved firm-specific effects are correlated with the regressors (IR components and CG). The null hypothesis posits that the RE model is suitable due to no significant correlation, while rejection supports the FE model for consistent estimates.

For Model 1 (TQ ~ IR), the Chi-square statistic is 18.45 with 8 degrees of freedom and a p-value of 0.02, indicating statistical significance at the 5% level. Model 2 (CG ~ IR) yields a Chi-square value of 15.67 (p = 0.05), and Model 3 (TQ ~ IR + CG) reports a Chi-square statistic of 22.13 (p = 0.01), both significant at the 5% level. As the p-values for all three models are below the 0.05 level, the null hypothesis is rejected in each case. Consequently, the Fixed Effects model is deemed more appropriate for estimating the relationships between Integrated Reporting components, corporate governance, and financial performance in Nigeria's consumer goods sector.

Table 4.3: Fixed-effects Panel Regression Results

Variables	Model 1: TQ			Model 2: CG			Model 3: TQ		
	CE	SE	Prob.	CE	SE	Prob.	CE	SE	Prob.
OEE	0.12	0.04	0.00	1.80	0.60	0.00	0.08	0.04	0.05
GOV	0.15	0.05	0.00	2.50	0.70	0.00	0.10	0.05	0.05
BM	0.08	0.06	0.18	1.20	0.80	0.13	0.06	0.06	0.32
RO	0.10	0.05	0.05	1.50	0.65	0.02	0.07	0.05	0.16
SRA	0.09	0.06	0.13	1.30	0.75	0.08	0.06	0.06	0.32
PER	0.14	0.04	0.00	2.00	0.60	0.00	0.09	0.04	0.03
OUT	0.07	0.05	0.16	1.10	0.70	0.12	0.05	0.05	0.32
BPP	0.06	0.06	0.32	0.90	0.80	0.26	0.04	0.06	0.50
CG	-	-	-	-	-	-	0.20	0.06	0.00
Constant	0.50	0.10	0.00	10.00	2.0	0.00	0.30	0.10	0.00
R^2	0.45			0.52			0.58		
F-Stat. (p-value)		12.34 (0.00)		14.56 (0.00)			15.78 (0.00)		
Obs.	200			200			200		
D.W	2.02			1.99			2.03		

Source: Author's Computation (2025)

Table 4.4 reports the fixed-effects panel regression results for the mediation analysis, revealing significant insights into the relationship between IR components, CG, and TQ in Nigeria's consumer goods sector. In Model 1, OEE (0.12, p=0.00), GOV (0.15, p=0.00), RO (0.10, p=0.05), and PER (0.14, p=0.00) exhibit significant positive effects on TQ, indicating that a one-unit increase in these disclosure scores raises TQ by 0.12, 0.15 and 0.10 units respectively, underscoring their role in enhancing market valuation. BM, SRA, OUT, and BPP show positive but insignificant coefficients (p>0.05), suggesting limited impact on TQ. Model 2 reveals that OEE (1.80, p=0.00), GOV (2.50, p=0.00), RO (1.50, p=0.02), and PER (2.00, p=0.00) significantly improve CG, with a one-unit increase boosting the CG index by 1.50–2.50 units, highlighting their contribution to governance quality. In Model 3, CG (0.20, p=0.00) is significant, and the coefficients for OEE, GOV, and PER reduce (OEE: 0.12 to 0.08) while remaining significant (p<0.05), indicating partial mediation, whereas RO's effect becomes insignificant (p=0.16), suggesting full mediation. The R^2 values (0.45–0.58) reflect moderate to high explanatory power, with Model 3's higher R^2 (0.58) indicating improved fit with CG. Significant F-statistics (p=0.00) confirm model robustness, and Durbin-Watson values (≈2) suggest no autocorrelation.

Table 4.5: Post-Estimation Diagnostic Tests for Mediation Models

Test	Model 1: TQ	Model 2: CG	Model 3: TQ
Breusch-Pagan (Heteroskedasticity)			
Statistic (χ^2)	2.45	3.12	2.89
p-value	0.12	0.08	0.09
Conclusion	No heteroskedasticity	No heteroskedasticity	No heteroskedasticity
Wooldridge (Autocorrelation)			
Statistic (F)	1.67	1.45	1.89
p-value	0.20	0.23	0.17
Conclusion	No autocorrelation	No autocorrelation	No autocorrelation
Ramsey RESET (Specification)			
Statistic (F)	0.92	1.03	0.87
p-value	0.43	0.36	0.46
Conclusion	No misspecification	No misspecification	No misspecification

Source: Author's Computation (2025)

Table 4.5 reports the post-estimation diagnostic test results for the fixed-effects panel regression models, confirming the robustness of the study. The Breusch-Pagan test for heteroskedasticity yields Chi-square statistics of 2.45 (p=0.12), 3.12 (p=0.08), and 2.89 (p=0.09) for Models 1, 2, and 3, respectively, failing to reject the null hypothesis of homoskedasticity. These results indicate no significant heteroskedasticity, validating the use of robust standard errors in the regressions. The Wooldridge test for autocorrelation produces F-statistics of 1.67 (p=0.20), 1.45 (p=0.23), and 1.89 (p=0.17), failing to reject the null hypothesis of no first-order autocorrelation, confirming that the models are free from serial correlation issues. The Ramsey RESET test for model specification yields F-statistics of 0.92 (p=0.43), 1.03 (p=0.36), and 0.87 (p=0.46), accepting the null hypothesis of correct specification, suggesting no evidence of omitted variables or incorrect functional forms. Collectively, these diagnostics affirm the reliability and validity of the FE regression results, supporting the conclusions drawn about the significant effects of OEE, GOV, RO, and PER on TQ and CG, and the mediating role of CG.

Table 4.6: Sobel Test Results for Mediation Effect of Corporate Governance

IR Component	Indirect Effect (a × b)	Z Statistic	SE	p-value	Conclusion
OEE	0.36	2.85**	0.13	0.00	Significant mediation
GOV	0.50	3.12**	0.16	0.00	Significant mediation
RO	0.30	2.34*	0.13	0.02	Significant mediation
PER	0.40	2.96**	0.14	0.00	Significant mediation

Source: Author's Computation (2025)

Table 4.6 reports the Sobel test results, confirming the significant mediation effect of corporate governance (CG) in the relationship between key IR components (OEE, GOV, RO, PER) and Tobin's Q (TQ) in Nigeria's consumer goods sector. For OEE, the indirect effect is 0.36 (Z=2.85, SE=0.13, p=0.00), indicating that CG significantly mediates OEE's impact on TQ, with a one-unit increase in OEE indirectly raising TQ by 0.36 units via CG. GOV shows a stronger mediation effect (0.50, Z=3.12, SE=0.16, p=0.00), suggesting robust governance disclosures enhance TQ through improved CG practices. RO's indirect effect is 0.30 (Z=2.34, SE=0.13, p=0.02), confirming significant mediation at the 5% level, while PER's effect is 0.40 (Z=2.96, SE=0.14, p=0.00), highlighting its substantial influence on TQ via CG. All p-values are below 0.05, rejecting the null hypothesis of no mediation and validating CG's role as a mediator for these IR components.

DISCUSSION OF FINDINGS

The study examines the relationship between IR and financial performance, proxied by TQ, with CG as a mediator, using a balanced panel of 20 NGX-listed consumer goods firms over 2015–2024. In Table 4.4, Model 1 reveals that Organizational Overview and External Environment (OEE) has a positive and statistically significant relationship with TQ, with a coefficient of 0.12 (p=0.00), indicating that enhanced disclosure of external market conditions boosts company performance by 0.12 units per unit increase. This aligns with Raimo et al. (2021), who found that higher IR quality increased TQ by 0.15 units in European firms, suggesting that transparent external disclosures reduce information asymmetry. Similarly, Governance (GOV) shows a significant positive relationship with TQ (coefficient=0.15, p=0.00), supporting the notion that strong governance disclosures enhance investor confidence, consistent with Abogazia et al. (2024), who noted IR's positive impact on TQ in Egypt. Risks and Opportunities (RO) also exhibits a significant positive effect on TQ (coefficient=0.10, SE=0.05, p=0.05), indicating that risk management disclosures contribute to firm performance, mirroring Darminto et al. (2024), who reported a 0.18-unit TQ increase from IR quality in Asian firms.

Performance (PER) is significantly positive (coefficient=0.14, p=0.00), reinforcing that performance metric disclosures drive performance, as supported by Akisik and Gal (2021), who found IR adoption increased TQ by 1.5% in North America. However, Business Model (BM), Strategy and Resource Allocation (SRA), Outlook (OUT), and Basis of Preparation and Presentation (BPP) show insignificant relationships with TQ (p>0.05), contrasting with Moloi and Iredele (2020), who found broader IR quality impacts in South Africa, possibly due to Nigeria's voluntary IR context limiting investor focus on these components.

In Model 2, OEE (coefficient=1.80, p=0.00), GOV (coefficient=2.50, p=0.00), RO (coefficient=1.50, p=0.02), and PER (coefficient=2.00, p=0.00) significantly enhance CG, increasing the governance index by 1.50–2.50 units per unit increase. These findings suggest that transparent IR disclosures strengthen board oversight and accountability, aligning with Wahl et al. (2020), who noted IR's role in improving governance in global firms. In contrast, BM, SRA, OUT, and BPP are insignificant (p>0.05), differing from Akpan et al. (2022), who found specific IR components like human capital significant in Nigerian manufacturing, indicating sector-specific governance priorities. In Model 3, CG exhibits a significant positive relationship with TQ (coefficient=0.20, p=0.00), with reduced coefficients for OEE (0.08, p=0.05), GOV (0.10, p=0.05), and PER (0.09, p=0.03), indicating partial mediation, while RO's insignificance (p=0.16) suggests full mediation.

Table 4.6's Sobel test confirms significant mediation for OEE (indirect effect=0.36, p=0.00), GOV (0.50, p=0.00), RO (0.30, p=0.02), and PER (0.40, p=0.00), supporting that CG channels IR's impact on TQ. This aligns with Gazia et al. (2025), who found IR's effect enhanced by regulatory environments, but contrasts with Fernando and Jeewanthi (2022), who reported negative IR–TQ links in Sri Lanka, highlighting Nigeria's favorable IR adoption context. Unlike Onumoh et al. (2024), who found limited IR impacts in Nigerian manufacturing, these findings align with Capital Market Theory, emphasizing that high-quality IR disclosures enhance financial performance by strengthening governance mechanisms.

CONCLUSION AND RECOMMENDATION

The study establishes that IR significantly enhances financial performance in Nigeria's consumer goods sector, with corporate governance (CG) serving as a pivotal mediator. Organizational Overview and External Environment (OEE), Governance (GOV), Risks and Opportunities (RO), and Performance (PER) reporting directly improve TQ by enhancing market valuation through transparent disclosures that reduce information asymmetry. CG acts as a mediator by channeling the impact of these IR components to TQ, as improved disclosures strengthen governance practices (such as board independence, transparency), which in turn signal credibility to investors, further boosting firm performance.

Specifically, CG partially mediates the effects of OEE, GOV, and PER, meaning these components influence TQ both directly and indirectly through enhanced governance, while fully mediating RO, indicating that RO's effect on TQ relies entirely on improved CG. Other components, such as Business Model (BM), Strategy and Resource Allocation (SRA), Outlook (OUT), and Basis of Preparation and Presentation (BPP), show limited impact, likely due to Nigeria's voluntary IR context and lower investor focus. The robust model fit and clean diagnostics affirm the reliability of these findings, supporting the conclusion that firms and regulators can leverage IR and CG to enhance financial performance.

RECOMMENDATIONS

Based on these findings, firms should focus on clear, high-quality disclosures in external conditions, governance, risks, and performance, using global IR guidelines to guide reporting. Strengthening governance through independent boards and transparent practices will amplify IR's impact, turning disclosures into real investor value. Regulators like the NGX should encourage IR adoption with incentives like recognition programs, making it easier for firms to start. Educating investors through workshops can help them value all IR components, even those currently overlooked. Firms should also use third-party audits to ensure IR credibility and consider tech tools, like data analytics, to refine reports and governance processes. Engaging stakeholders in shaping IR content can make disclosures more relevant, boosting trust.

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Table 3.1: Variable Description

Variable	Description	Measurement	Source
Tobin's Q (TQ)	A market-based measure of financial performance, reflecting the firm's market valuation relative to its asset value.	Calculated as $\frac{Market\ value\ of\ Equity + Book\ value\ of\ Debt}{Book\ Value\ of\ Asset}$	NGX database, firms' annual financial reports (2015–2024),
Corporate Governance (CG)	A composite index capturing the quality of governance practices, focusing on board independence and transparency.	An index (0–10) constructed from five equally weighted sub-indicators: board independence (%), proportion of non-executive directors (%), audit committee independence (%), frequency of board meetings (per year), and disclosure of governance policies (binary: 1 = disclosed, 0 = not disclosed). Scores are aggregated and normalized to 0–100.	Firms' annual reports (2015–2024), NGX corporate governance filings, firms' websites for governance disclosures.
Organizational Overview and External Environment (OEE)	Disclosure quality regarding the firm's operational context and external market conditions.	Score (0–10) based on the presence and detail of disclosures in annual reports, per IIRC (2021) guidelines (such as., market trends, competitive landscape).	Firms' annual reports (2015–2024)
Governance (GOV)	Disclosure quality of governance structures and processes supporting IR.	Score (0–10) based on IIRC (2021) criteria (such as board composition, governance policies).	Firms' annual reports (2015–2024)
Business Model (BM)	Disclosure quality of the firm's business model and value creation process. First-differenced (\Delta BM) for stationarity.	Score (0–10) based on IIRC (2021) guidelines (esuch as., inputs, outputs, business activities).	Firms' annual reports (2015–2024), IR sections.
Risks and Opportunities (RO)	Disclosure quality of risks faced and opportunities pursued by the firm.	Score (0–10) based on IIRC (2021) criteria (such as., risk identification, mitigation strategies).	Firms' annual reports (2015–2024), IR and risk management sections.

Strategy and Resource Allocation (SRA)	Disclosure quality of strategic objectives and resource allocation plans.	Score (0–10) based on IIRC (2021) guidelines (such as strategic goals, resource plans).	Firms' annual reports (2015–2024), IR and strategy sections.
Performance (PER)	Disclosure quality of financial and non-financial performance metrics.	Score (0–10) based on IIRC (2021) criteria (Such as KPIs, ESG outcomes). Evaluated via content analysis of annual reports, ensuring coder reliability.	Firms' annual reports (2015–2024), IR and performance sections, and sustainability reports.
Outlook (OUT)	Disclosure quality of prospects and challenges.	Score (0–10) based on IIRC (2021) guidelines (such, market forecasts, strategic outlook). Assessed via content analysis of annual reports, with coder agreement.	Firms' annual reports (2015–2024), IR and outlook sections.
Basis of Preparation and Presentation (BPP)	Disclosure quality of the IR framework application and reporting boundaries.	Score (0–10) based on IIRC (2021) criteria	Firms' annual reports (2015–2024), IR, and methodology sections.