

Integrated Reporting and the Firm-Value of Nigerian Listed Consumer Good Firms: Empirical Evidence from Logistic Panel Regression

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Abstract: This study evaluated the effect of integrated reporting on firm- value of listed consumer goods firms in Nigeria using financial capital disclosure, human capital disclosure, social capital disclosure and relational capital disclosure as exogenous variables. The study adopted the ex post facto research design and collected secondary data covering the period 2013-2024 from the audited annual financial statements of the selected consumer goods firms and the Nigerian Exchange Fact-Book. The Logistic panel regression was deployed for data analyses and the results show that while financial capital reporting had significant effect on firm value, human capital reporting, social capital reporting and relational capital reporting individually had insignificant effects on firm- value of consumer goods firms in Nigeria. The study recommends among others, that firms should continue to enhance the quality and transparency of their financial capital disclosures, as these disclosures have been shown to significantly influence firm- value. Firms should improve the structure and presentation of human capital disclosures by providing more quantitative and measurable information relating to employee productivity, training investments, and workforce performance.

Keywords: Financial Capital Disclosure, Human Capital Disclosure, Social Capital Disclosure, Relational Capital Disclosure.

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I. INTRODUCTION

At the global scenario, stakeholders of businesses are increasingly demanding for comprehensive and forward-looking information about firms' performance and sustainability. Arising from the limitations of conventional reporting and the associated challenges which occasioned the ever-increasing relevance of integrated reporting in every economic community particularly the underdeveloped economies, where firms operate amid economic volatility, regulatory changes, high inflation, exchange rate fluctuations, and aggressive competition. These challenges are particularly significant in the consumer goods sector, where firms involved in the production and distribution of food, beverages, and personal care products face increasing pressure to demonstrate transparency, good governance, social responsibility, and sustainable value creation. Consequently,

In Nigeria, the Exchange and the Financial Reporting Council of Nigeria have placed increasing emphasis on corporate transparency, governance, and sustainability reporting (Onuoha et al., 2020). Integrated reporting emerged as an approach for addressing the weaknesses of traditional reporting by connecting financial and non-financial information. The Integrated Reporting Framework developed by the International Integrated Reporting Council (IIRC) promotes a comprehensive communication of an organization's strategy, governance, performance, and prospects in relation to value creation over the short, medium, and long term. Its relevance to consumer goods firms is particularly important because their long-term success depends not only on financial resources but also on human, social, and relational resources (Salvi et al., 2022).

Financial capital disclosure provides information on a firm's financial performance, assets, liabilities, equity, and revenue-generating capacity. Integrated reporting goes beyond presenting these figures by linking financial

outcomes to the firm's strategy, risk profile, and use of other forms of capital (Pamungkas & Meini, 2023). For Nigerian consumer goods firms, such disclosure is important because inflation, foreign exchange volatility, and rising operating costs can significantly affect financial performance and sustainability.

Human capital disclosure focuses on employees' knowledge, skills, experience, motivation, and well-being. Human capital is particularly important in the consumer goods sector because employees contribute to innovation, product quality, operational efficiency, and customer satisfaction (Al-Delawi et al., 2023). Information on employee training, retention, diversity, and occupational health and safety can therefore provide stakeholders with useful insights into a firm's productivity and long-term resilience.

Social capital disclosure relates to a firm's relationships with the communities and society within which it operates. It reflects trust, cooperation, legitimacy, community engagement, environmental responsibility, and corporate social responsibility (Suretno et al., 2022). For Nigerian consumer goods firms, effective management of social relationships can strengthen corporate reputation, customer loyalty, and the firm's legitimacy to operate, thereby potentially improving its market valuation.

Relational capital disclosure, meanwhile, focuses on the quality of relationships between a firm and its external stakeholders, including customers, suppliers, regulators, investors, and strategic partners. Such relationships are particularly important in the consumer goods sector because efficient supply chains, customer satisfaction, market access, and brand reputation contribute significantly to competitive advantage (Luthfiani & Suryani, 2022). Disclosures concerning stakeholder engagement, strategic partnerships, customer relationships, and brand value can therefore signal a firm's adaptability and capacity to sustain future revenue and market stability.

Despite the growing importance of integrated reporting, its adoption among Nigerian firms remains relatively nascent. Although some leading consumer goods companies have begun incorporating elements of the Integrated Reporting Framework into their corporate reports, considerable differences remain in the extent, consistency, and quality of disclosure. Consequently, examining financial, human, social, and relational capital disclosures is important for understanding how integrated reporting communicates corporate value creation and potentially influences the value of consumer goods firms in Nigeria. Several research works have been carried out in Nigeria and in other climes on integrated reporting and firm value. Some of these include the works of Riyadh et al (2022), Luthfiani and Suryani (2022), Al-Delawi et al (2023), Ibrahim and Aboud (2024), Handayati et al. (2022), Qamruzzaman et al (2021), Kristi and Yanto (2020), Bangara et al (2024) and Salvi et al (2022) amongst several others. Specifically, the work of Ibrahim and Aboud (2024) used the exogenous variables of risk disclosure and analyst information environment, and was conducted in

the UK. The study of Handayati et al. (2022) focused on firms in Indonesia, and used profitability and firm size as moderating variables in their study. Qamruzzaman et al (2021) analyzed voluntary information disclosure on the value of firms listed on the Dhaka Stock Exchange for the period 2017 to 2019 but left out other forms of integrated reporting in its model, Savitri et al. (2020) on the other hand investigated the effect of enterprise risk-based management disclosures (ERMD) and intellectual capital (IC) on firm value in Indonesia, but the data used stopped at 2018. This study therefore evaluated the effect of integrated reporting on firm value of listed consumer goods firms in Nigeria, using financial capital disclosure, human capital disclosure, social capital disclosure and relational capital disclosure as its exogenous variables for the period 2013, to 2024.

The specific objectives of this study are to:

- Examine the effect of financial capital disclosure on firm-value of listed consumer goods firms in Nigeria.
- Assess the effect of human capital disclosure and on firm-value of listed consumer goods firms in Nigeria.
- Determine the effect of social capital disclosure on firm -value of listed consumer goods firms in Nigeria.
- Analyze the effect of relational capital disclosure on firm-value of listed consumer goods firms in Nigeria.

II. LITERATURE REVIEW

➤ Conceptual Review

• Firm -Value

Abd-Elrahman and Ahmed Kamal (2022) described firm as the total worth of a business as perceived by investors and stakeholders. This suggest that firm- value encompasses both tangible and intangible elements that contribute to the company's ability to generate sustainable income and shareholder returns. It goes beyond mere market capitalization by including debt, preferred equity, minority interest, and excluding cash or cash equivalents. Firm- value could also be seen is the sum of the market value of equity, debt, and other financial claims on the firm, less its cash holdings (Brooks & Oikonomou, 2018).

Firm -value also reflects brand equity, consumer loyalty, distribution networks, and supply chain efficiency. These firms operate in highly competitive markets, where non-financial factors like brand reputation, customer base, product innovation, and marketing strategies significantly impact value. Habbash (2017) further define firm- value as the present value of expected future free cash flows discounted at the weighted average cost of capital (WACC), emphasizing the importance of cash flow generation capacity. For consumer goods companies in Nigeria and other emerging markets, firm-value is increasingly influenced by external macroeconomic factors such as exchange rate volatility, inflation, interest rates, and consumer purchasing power.

- *Integrated Reporting*

According to Keliwon et al., (2018), integrated reporting indicates corporate reporting that combines both financial and non-financial information to provide a comprehensive view of an organization's performance, strategy, and future prospects. It emerged as a response to the limitations of traditional financial reporting, which focuses primarily on historical financial data without adequately reflecting the broader range of factors that affect a company's long-term value. One widely accepted definition comes from the International Integrated Reporting Council (2013), which described integrated reporting as "a concise communication about how an organization's strategy, governance, performance, and prospects, in the context of its external environment, lead to the creation of value over the short, medium, and long term." This definition emphasizes the importance of value creation not just for shareholders but for all stakeholders, including customers, employees, communities, and regulators.

Firmansyah et al., (2021) defines integrated reporting as a process founded on integrated thinking that results in a periodic integrated report by an organization about value creation over time and related externalities. This definition introduces the concept of "integrated thinking," which refers to the active consideration of the relationships between various operating and functional units within an organization, as well as the capitals it uses or affects. Furthermore, Kim and Kim (2024) describe integrated reporting as the integration of financial, environmental, social, and governance (ESG) information into a single, coherent narrative that offers stakeholders a more complete picture of a company's activities and impact. According to them, the aim is not only to improve transparency and accountability but also to encourage a more sustainable and ethical approach to business.

- *Financial Capital Disclosure*

According to Kristi and Yanto (2020), financial capital disclosure refers to the communication of information regarding a company's financial resources, financial position, and capital structure to stakeholders. It is an essential element of corporate reporting and transparency, providing investors, regulators, analysts, and the general public with insight into the financial soundness, sustainability, and performance of an organization. Scholars and institutions have defined financial capital disclosure in various ways, depending on the scope, purpose, and reporting framework in focus.

Nurjanah and Arifa (2023). further described financial capital disclosure as the pool of funds that is available to an organization for use in the production of goods or provision of services. These funds can come in the form of debt, equity, or grants. In the context of integrated reporting, financial capital disclosure involves the systematic presentation of how a company manages its financial capital to create value over time. This includes disclosures about revenues, profits, retained earnings, dividends, debt levels, capital expenditures, and funding strategies. It goes beyond just publishing financial statements to telling a cohesive story

about how financial resources are generated, used, and sustained.

- *Human Capital Disclosure*

Human capital disclosure (HCD) refers to the process of providing information regarding an organization's human resources in financial and non-financial terms, aimed at enhancing transparency and stakeholder understanding of the role human capital plays in achieving organizational goals (Li et al,2024).

According to Hatane et al (2019) human capital disclosure includes information on employment, labor-management relations, occupational health and safety, training and education, diversity and equal opportunity, and non-discrimination. Qamruzzaman et al (2021) described human capital disclosure as the extent to which companies voluntarily provide information related to employee-related activities in their annual reports or corporate websites. This includes details about remuneration policies, workforce composition, skills development, employee engagement, and succession planning. This definition leans towards the voluntary nature of such disclosures, as most jurisdictions do not mandate detailed human capital reporting beyond basic employment numbers.

- *Social Capital Disclosure*

According Ibrahim and Aboud (2024), social capital disclosure refers to the process through which companies communicate their efforts, strategies, and impacts in fostering social networks, trust, mutual understanding, and relationships within and beyond the organization. The definitions of social capital disclosure vary depending on theoretical perspectives, reporting standards, and contextual applications. Fundamentally, social capital refers to the intangible resources embedded within social relationships, networks, norms, and trust that facilitate collective action and cooperation. In corporate reporting, social capital disclosure involves the transparency with which firms reveal how they build, sustain, or utilize these networks and relationships to create value for stakeholders (Pamungkas & Meini (2023).

According to Al-Delawi et al (2023), social capital encompasses the institutions and relationships within and between communities, stakeholder groups, and other networks, along with the shared norms and values that underpin these relationships. Thus, social capital disclosure entails reporting on how companies interact with stakeholders such as customers, employees, suppliers, regulators, and communities, and how these interactions support long-term value creation. This definition emphasizes disclosures on stakeholder relationships, brand loyalty, corporate reputation, and license to operate as key components of social capital reporting.

- *Relational Capital Disclosure*

Relational capital disclosure refers to the communication of information related to a firm's relationships with external stakeholders, including customers, suppliers, business partners, regulatory bodies, and the wider community (Shahwan, 2019). It is a key component of

intellectual capital, which is typically divided into three categories: human capital, social capital, and relational capital. While human and social capital focus on internal knowledge assets and systems, relational capital centers on the value derived from a company's external relationships and networks. Narayanan and Adams (2017) posit that disclosure of relational capital therefore reflects the firm's willingness to share non-financial information that highlights how it creates and maintains valuable external relationships that contribute to its competitive advantage and long-term performance.

Haj-Salem et al (2020) defined relational capital disclosure as the communication of information about relationships that organizations maintain with customers, competitors, commercial allies, and governments. This definition underscores the broad spectrum of stakeholders whose interactions with the firm can influence its value. They also noted that such disclosures could include information on customer satisfaction levels, market share, strategic alliances, franchising arrangements, licensing agreements, and public relations efforts. By making this information available, companies provide stakeholders with insights into their market positioning, customer orientation, and collaborative strategies, which are otherwise not captured in traditional financial reports.

➤ Theoretical Framework

• Agency Theory:

Originating from the seminal work of Jensen and Meckling (1976), Agency Theory explains the relationship between principals, represented by shareholders, and agents, represented by managers. The theory argues that conflicts of interest may arise because managers do not always act in the best interests of shareholders (Bidhari et al., 2013). This conflict results from the separation of ownership and control, as shareholders delegate the day-to-day management of the firm to executives. Consequently, shareholders require timely, accurate, and comprehensive information to evaluate managerial performance and decisions, making corporate disclosure an important mechanism for reducing information asymmetry (Atiase et al., 1989).

Agency Theory also emphasizes agency costs, which arise from the need to monitor and control managers and ensure that they act in shareholders' interests (Barth et al., 2017). Corporate disclosure can reduce these costs by providing shareholders with information for assessing managerial performance without directly participating in daily operations. Voluntary disclosure beyond statutory requirements can further reduce perceived agency risks and strengthen investor confidence (Carroll & Shabana, 2010). The extent of corporate disclosure may depend on the level of agency conflict within a firm. Firms with dispersed ownership are more likely to experience agency problems and may therefore provide more extensive disclosures to reassure shareholders and improve transparency (Harun et al., 2020). In contrast, firms where ownership and management are closely aligned may have weaker incentives for extensive disclosure. Executive compensation can also influence

disclosure, as managers may disclose information that presents their performance favourably, particularly where remuneration is linked to financial outcomes (Kristi & Yanto, 2020). Agency Theory therefore provides a useful basis for understanding corporate governance practices that emphasize transparency, accountability, and effective disclosure. Corporate disclosure enables stakeholders to evaluate a firm's performance, risks, and future prospects while strengthening managerial accountability (Mangena et al., 2016). In environments characterized by weak enforcement and limited investor protection, voluntary disclosure becomes particularly important for building corporate credibility, attracting investment, reducing information asymmetry, and enhancing the firm's reputation in the capital market.

➤ Empirical Review

• Financial Capital Disclosure and Firm- Value

The work of Ibrahim and Aboud (2024) investigated the influence of risk disclosure (RD) in the annual reports on firm value (FV) in the UK. The study specifically looked at the moderating role of the analyst information environment in shaping this relation. The study adopted the time series research design and used the panel data regression for its analysis. The study found a positive relationship between risk information and FV. The study also contributed to the dilemma of risk disclosure measurement by using four different RD proxies. This study however did not include financial capital disclosure, human capital disclosure, social capital disclosure and relational capital disclosure in its model. Furthermore, the study was done in the UK and was not specific to the consumer goods sector. An empirical study by Handayati et al. (2022) in Indonesia looked at the nexus between corporate social responsibility disclosure and firm value and also investigates the mediating role of profitability and firm size. The research involved 49 mining sector firms in Indonesia between 2019 and 2020 that were listed on the Indonesia Stock Exchange (IDX). The study used the time series research design and adopted Moderated Regression Analysis (MRA) to estimate the relationship between the variables involved in this study. The findings reveal that corporate social responsibility disclosure has a significant effect on firm value in the mining sector in Indonesia. This study also confirms that profitability and firm size can moderate the effect of corporate social responsibility disclosure on firm value. Practical and theoretical suggestions also are provided. But this study was done in Indonesia, and used data for only 2019 to 2020 for its analysis. The study findings may not reflect current realities on ground. Furthermore, the variables in its model are different from those of the present study.

• Human Capital Disclosure and Firm Value

A study by Bangara et al (2024) in a comparative investigation investigated how disclosure of human capital affects the value of listed companies in Kenya and South Africa. On the basis of positivist research philosophy, the researcher employed both exploratory and confirmatory research designs. The study was braced on the stakeholder and Legitimacy theories. 209 listed companies formed the population of the study. Out of this population, a sample of

137 companies was purposefully selected, comprising of 19 firms listed in the NSE, Kenya and 118 companies listed in the JSE, South Africa. Data was collected from secondary sources involving audited annual integrated report and financial statements of the targeted companies. Tobin's Q ratio, was used as a surrogate for Firm Value, as, human capital disclosure was measured using an unweighted disclosure index. Preliminary analyses were conducted, such as descriptive statistics and correlation matrix. To test the hypothesized relationship, regression techniques were employed. The results signify that human capital disclosure has a statistically significant negative effect on firm value for Kenyan listed companies as South Africa affirmed positive and significant results. This study was however, done in Kenya and findings are not specific to the consumer goods industry

Pamungkas and Meini (2023) evaluated the effect of sustainability reporting and intellectual capital on firm value. The specific objectives of the study were to evaluate the effect of sustainability reporting on firm value and to evaluate the effect of intellectual capital on firm value. The novelty of this study is to test whether profitability can moderate the effect of sustainability reporting and intellectual capital disclosure on firm value. The data used in this study is panel data for 32 firms listed on the Indonesia Stock Exchange for the 2017-2021 period. The study used the panel data technique in analyzing the data. The results showed that disclosure of sustainability reporting has a negative effect on firm value, intellectual capital has a positive effect on firm value. Profitability can strengthen the relationship between disclosure of sustainability reporting and intellectual capital on firm value. It is noticed that the period of study analyzed in this study is not very current and may not reflect present realities.

The work of Al-Delawi et al (2023) studied the effect of human resource variables, compensation, and welfare of employees, training expenses, and profits after tax on the value of the company. Both market capitalization and total assets were used to determine the value of the company, and 40 companies were chosen from the Iraq Stock Exchange for the year 2018 to research. To achieve the research objectives, a multiple regression model was used. This research found that compensation to employees has no significant impact to affect the market value, while employee care and training expenses and profits have a positive and significant impact on market capitalization. The current research also revealed that employee compensation has a significant and negative effect on total assets, while employee care and training expenses and post-tax profits affect morally and positively the total assets. However, the exogenous variables evaluated in this work are different from those of the current study.

- *Social Capital Disclosure and Firm Value*

Li et al (2024) in a study determined the effect of environmental, social, and governance (ESG) disclosure on the firm value of Chinese listed companies. The sample consists of 6,575 firm-year observations from the years 2011 to 2021, representing 1,024 firms listed in China. Using a large panel dataset, this study reveals a positive effect of ESG

disclosure on firm value (Tobin's Q), while no significant effect is observed on firm value (ROE). It highlights the need for companies to embrace ESG trends, incorporate ESG concepts into strategic decision-making, practice sustainable development, and prioritize stakeholder interests, ultimately contributing to China's pursuit of high-quality and high-speed economic development. This study was however done in China and findings may not apply to the Nigerian consumer goods industry.

The study of Kim and Kim (2024) in Korea evaluated the effect of greenhouse gas (GHG) emissions disclosure and its compounding effect with environmental, social, and governance (ESG) disclosure on firm value in Korea. This study focused on the unique institutional setting in Korea that implements mandatory GHG emissions disclosure and voluntary ESG disclosure. Using a dataset comprising 25,968 firm-year observations from publicly listed Korean firms from 2000 to 2021, we applied an ordinary least squares (OLS) regression model to test hypotheses. The results show that, in a voluntary disclosure regime, ESG disclosure has a positive impact, whereas in a mandatory disclosure regime, GHG emissions disclosure has a negative impact on firm value. The results also indicate that when a firm discloses both its GHG emissions and ESG performance information, the voluntary disclosure of ESG information synergistically mitigates the adverse effects of mandatory disclosure of GHG emissions information. This synergy contributes significantly to enhancing the firm's overall value. The findings indicate that a firm can enhance its value by proactively disclosing ESG information, especially when it is compulsorily required to report GHG emissions data. This work was however carried out in Korea and findings may not apply to Nigeria. Furthermore, the study excluded financial capital disclosure and relational capital disclosure from its model.

An empirical study by Jaf and Rashid (2023) investigated the role of accounting measurement and disclosure of social capital (AMDSC) in improving financial performance (FP) in industrial companies in the Kurdistan Region of Iraq-Sulaimani City (KRG). The study adopted a primary data research design and analyzed data collected from 10 industrial companies operating in the iron sector during 2021 by the aid of regression. The outcomes disclose that AMDSC has a significant effect on improving the FP of industrial companies in KRG. SC has a significant influence on FP as it is approved. Thus, this suggests that SC needs to be considered in the companies' strategy to secure future financing in this area. This study however, was done in a different economy and findings may not apply to Nigeria.

A study by Wang et al (2023) examined whether carbon information disclosure (CID) can truly enhance corporate value (CV), which motivates companies to reduce carbon emissions endogenously. Given that the dynamic impact of CID on CV evolves over time, this paper continuously investigates this time-varying relationship within the functional framework. Based on the continuous curves smoothed from 65 companies in the Shanghai Stock Exchange Social Responsibility Index, the study constructed an evaluation index using functional entropy weight to

continuously measure the level of CID. Furthermore, to quantify the time-varying effect of CID on CV, we use functional regression to visualize its dynamics in symbol, strength, and statistical significance from 2009 to 2021. Finally, the real-time moderating effects of nature of ownership and industry attributes are also examined, revealing how the impact of CID on CV varies across different companies and periods. The results suggest the following: (1) CID adversely affected CV initially but favored later. (2) The initial negative impact and the subsequent positive impact of CID on CV are stronger in non-state-owned companies than in state-owned companies. However, the variables evaluated in this study are different from those of the current work.

- *Relational Capital Disclosure and Firm Value*

The work of Harmono and Insiyroh (2024) investigated the information content disclosure of VAIC influence on firm value through firm performance, and leverage, and to obtain a robust integrated model that can reveal the information content of intellectual capital. The research population is 709 companies listed on the Indonesian capital market. Using purposive sampling, 159 manufacturing companies were identified from 2017 to 2019, with $N = 507$ observations, by using path analysis and panel regressions. The research finding is a robust integrated model in which capital employee efficiency (CEE) and human capital efficiency (HCE) affect firm value when using (Tobin's Q) fully mediated through firm performance (ROI) and leverage (DER). The results obtained revealed the importance of the integrated model that places firm performance (ROI) and leverage as an intervening variable between the information content of VAIC and its effect on firm value, become a model for disclosing the information content of multidimensional intellectual capital. This study was however done in India and findings may not apply to Nigeria. In addition, the study excluded human capital disclosure, financial capital disclosure and social capital disclosure from its model.

In an empirical study, Naibei et al (2024) established the relationship between relational capital disclosure and firm value among firms listed on the Nairobi Securities Exchange (NSE) in Kenya. The study employed a correlational and longitudinal research design. The target population consisted of sixty two (62) Nairobi Securities Exchange-listed firms between 2017 and 2021. A census technique was used to select all eligible firms to participate in the study. Secondary data was collected using a secondary data extraction tool. Both descriptive and inferential statistics were used for data analysis. Specifically, correlation analysis was employed to examine the relationship between variables, while multiple linear regression analysis was used to test the hypotheses using panel data. Our findings indicate a declining trend in relational capital disclosure over these years. Despite this decline, we find a significant positive relationship between relational capital disclosure and firm value, measured using Tobin's Q ($\beta=2.930976$, $P<0.05$). This study was however done in Nairobi and findings may not apply to Nigeria. In addition, the study excluded human capital disclosure, financial capital disclosure and social capital disclosure from its model.

Chakkravarthy et al (2024) explored the relationship between return on assets and firm value. The study also evaluated the mediating effect of the dividend payout ratio and the moderating effect of institutional investors. The data for this study was collected from secondary sources, which included financial information. The sample consisted of five pharmaceutical companies with 192 data points over a ten-year period and was analyzed using Hayes's PROCESS macros. The findings of the study indicate that (i) return on assets is positively associated with the firm value and dividend payout ratio, (ii) dividend payout ratio was negatively related to firm value, (iii) the firm's size moderates the relationship between return on assets and dividend payout ratio, and institutional holdings. The findings support moderating effect of firm size (second moderator) in the relationship between the return on assets and institutional investors (first moderator) and dividend payout ratio and firm value, mediated through dividend payout ratio. This study however used the moderating equation model.

The work of Kartikasari et al (2023) determined the effect of return on assets (ROA), current ratio (CR), and debt to equity ratio (DER) on the company value. This study used secondary data by analyzing the financial statements and annual reports of 16 sample companies from 79 property and real estate companies listed on IDX for the 2016-2020 period. Sampling in this study used purposive sampling method. The results of this study indicate that partially, Return on Assets (ROA) has no effect on the company value of property and real estate companies listed on IDX for the 2016-2020 period, while the Current Ratio (CR) and Debt to Equity (DER) has a positive and significant effect on the company value of property and real estate listed on the IDX. However, the exogenous variables of the study are different from those of this study.

Puspitarini and Fitria (2023) assessed the extent to which Return on Assets (ROA) and Debt to Equity (DER) impact the perceived firm value of a chosen bank company listed on the IDX. The study employed a quantitative research methodology, precisely a Descriptive and Verification approach. The data for this study is obtained from the financial reports of a chosen bank company listed on the IDX. The data collection spans from 2016 to 2021, encompassing quarterly reports issued by the company. The findings demonstrate a statistically significant positive relationship between Return on Assets (ROA) and Firm Value. This result is evidenced by a Sig value of 0.048, less than the conventional significance level of 0.05. Additionally, the T-count value of 2.101 exceeds the critical value, further supporting the significance of this relationship. This study however was not done in Nigeria and findings may not apply to the consumer goods industry.

The work of Jalali (2023) explored the mediating effect of entrepreneurial orientation (EO), looking at the relationship between relational capital and performance. A questionnaire was administered to 150 manufacturing small and medium enterprises (SMEs) in Iran. A model relating relational capital to performance through EO is tested using Smart PLS with two stage analysis, and the results turned out

positive. Additionally, results indicate positive relationship between relational capital and EO, as well as EO to performance.

The study of Abd-Elrahman and Ahmed Kamal (2022) empirically investigated the mediating effect of service quality (SQ) in the relationship between relational capital (RC) and organizational performance (OP) within the Egyptian mobile telecommunication setting. A valid research instrument was utilized to conduct a survey of 384 top-middle- and supervisory- level managers from three Egyptian mobile telecommunications companies. The hypothesized direct relationships were tested through multiple linear regression, and the mediating effect was tested using a structural equation modeling technique. The results revealed that the firm's "customer and supplier relations" and "marketing capability" positively affect both OP and SQ, "customer knowledge" positively affects SQ only, while "strategic alliances, licensing and agreements" do not have an association with SQ or OP. Moreover, SQ was found fully mediating the effect of RC on OP. This study however, was done in India and findings may not apply to Nigerian consumer goods firms.

III. METHODOLOGY

➤ Research Design;

This study employed the ex-post facto research design, with particular emphasis on the longitudinal panel series design. The population of this study consist of the sixteen (16) consumer goods firms listed on the Nigerian Exchange as at 31st December, 2024 obtained from the NGX Fact-book. The purposive sampling technique was used in selecting the sample size for this study based on the criteria that the firm must be in operation during the period 2013 to 2024; the firm must not be merged or taken over by another firm during the period of the study to avoid the effect of changes in management on the operation of the firm; the firm must not be delisted throughout the periods of the study. This is to avoid data attrition problem; the firm is an active participant in the Nigerian Exchange; the firm must earn profit from

business activities within the periods and provide complete annual account and report; and the firm does not have issues with regulatory authorities.

➤ Model Specification

In line with the research hypotheses stated in section one, which is specified as below:

$$FV_{it} = \beta_0 + \beta_1 FCD_{it} + \beta_2 HCD_{it} + \beta_3 SCD_{it} + \beta_4 RCD_{it} + \mu_{it}$$

Where;

- FV = Tobin's Q
- FCD = Financial Capital Disclosure
- HCD = Human Capital Disclosure
- SCD = Social Capital Disclosure
- RCD = Relational Capital Disclosure
- β_0 = Constant term
- μ_{it} = Error terms
- t = Time period (2013, 2014, 2015 ... 2024)
- $\beta_1, \beta_2, \beta_3$, and β_4 = Coefficients of all the independence variables

- The *a priori* expectation: $\beta_1, \beta_2, \beta_3$ and $\beta_4 > 0$ or < 0 . This implies that all the independent variables are positively/negatively related to the dependent variable.

The study used the balanced panel containing 120 observations for Tobin's Q, and the four integrated-reporting disclosure indices.

IV. DATA ANALYSES AND RESULTS

➤ Descriptive Statistics:

This section contains the description of the properties of the variables ranging from the mean of each variable, minimum, maximum and standard deviation. The summary of the descriptive statistics of the variables is presented in table 1.

Table 1 Descriptive Statistics of Variables

Variable	Obs	Mean	Std. Dev	Min	Max
TobinQ	110	1.452	1.301	0.14	9.54
FCD	110	0.901	0.142	0.10	1.00
HCD	110	0.705	0.164	0.40	1.00
SCD	110	0.660	0.193	0.20	1.00
RCD	110	0.727	0.164	0.40	1.00

Source: SPSS Computation, 2026

The descriptive statistics were computed for Tobin's Q, Financial Capital Disclosure (FCD), Human Capital Disclosure (HCD), Social Capital Disclosure (SCD), and Relational Capital Disclosure (RCD), using 110 observations. The equal number of observations indicates a balanced dataset with no missing values, thereby enhancing the consistency of the analysis.

Tobin's Q has a mean of 1.452 and a standard deviation of 1.301, indicating that, on average, the sampled firms have

market values above their asset replacement costs and are perceived to have positive growth prospects. However, the relatively high standard deviation shows substantial variation in firm value. The minimum value of 0.14 suggests that some firms have relatively low market valuations, while the maximum of 9.54 indicates that others command substantially higher valuations, possibly due to strong growth opportunities or intangible assets.

Financial Capital Disclosure records the highest mean of 0.901, with a standard deviation of 0.142. This indicates a generally high and relatively consistent level of financial capital disclosure among the firms. The minimum of 0.10 and maximum of 1.00, however, show that disclosure practices still vary considerably, with some firms providing comprehensive financial information.

Human Capital Disclosure has a mean of 0.705 and a standard deviation of 0.164, indicating a moderately high level of disclosure concerning employee skills, training, welfare, and development. The minimum value of 0.40 and maximum of 1.00 suggest differences in the extent to which firms communicate information about their human resources.

Social Capital Disclosure has a mean of 0.660 and the highest standard deviation among the disclosure variables at

0.193. This indicates a moderate level of disclosure and greater variation across firms. The minimum of 0.20 and maximum of 1.00 suggest substantial differences in firms' disclosure practices.

Relational Capital Disclosure records a relatively high mean of 0.727 and a standard deviation of 0.164. This suggests that firms generally provide considerable information about relationships with customers, suppliers, strategic partners, and other stakeholders. The minimum of 0.40 and maximum of 1.00 indicate moderate differences in disclosure levels. Overall, the results show that financial capital disclosure is the most prevalent, followed by relational and human capital disclosure, while social capital disclosure records the lowest mean and greatest variation.

➤ Correlation Matrix

Table 2 Correlation Matrix

Variable	TobinQ	FCD	HCD	SCD
TobinQ	1.000			
FCD	0.264	1.000		
HCD	0.029	0.419	1.000	
SCD	0.035	0.344	0.916	1.000

Source: SPSS Computation, 2026

The correlation analysis provides preliminary evidence on the relationships among the variables. Financial Capital Disclosure (FCD) has a positive correlation with Tobin's Q of 0.264, suggesting that firms with higher financial capital disclosure tend to have slightly higher market valuations.

Human Capital Disclosure (HCD), Social Capital Disclosure (SCD), and Relational Capital Disclosure (RCD) show very weak positive correlations with Tobin's Q, with coefficients of 0.029, 0.035, and 0.006 respectively. This suggests that these forms of disclosure have little linear association with firm value in the sampled firms. However,

the disclosure variables themselves exhibit very strong correlations, indicating that firms disclosing one form of intellectual capital are likely to disclose others. Such high interrelationships may raise concerns about multicollinearity in the regression model. Nevertheless, correlation analysis only indicates the direction and strength of linear association and does not establish causality. Therefore, the regression analysis is required to determine the independent effects of the disclosure variables on firm value.

➤ Hausman Test

Table 3 Hausman Test Result

Test	Value
Chi-square	5.81
Probability	0.214

Source: SPSS Computation, 2026

The Hausman specification test was also conducted to determine the appropriate panel data estimation technique between the fixed effects model and the random effects model. The test result shows a chi square statistic of 5.81 with a probability value of 0.214. Since the probability value is greater than 0.05, the null hypothesis that the random effects

model is appropriate cannot be rejected. This implies that the random effects model provides a more efficient and consistent estimation for the data compared to the fixed effects model.

➤ Regression Result

Table 4 Logistic regression

Variable	Coefficient	t-statistic	Probability
Constant	-0.159	-0.188	0.851
FCD	3.059	3.191	0.002
HCD	-1.039	-0.518	0.605
SCD	2.515	1.246	0.215
RCD	-2.850	-1.308	0.194

Statistic	Value
R	0.308
R ²	0.095
Adjusted R ²	0.061
F-statistic	2.742
Prob(F-statistic)	0.032

Dependent Variable: Firm Value (Tobin Q)

Source: SPSS Computation, 2026

The regression line $FV = -0.159 + 3.059FCD - 1.039HCD + 2.515SCD - 2.850RCD$ which indicates that FV will increase by 3.059% for every 1% increase in FCD, decrease by 1.039% for every 1% increase in HCD, increase by 2.515% for every 1% increase in SCD, and decrease by 2.850% for every 1% increase in RCD.

Furthermore, the regression analysis was conducted to determine the extent to which intellectual capital disclosures explain variations in firm value. The model summary indicates that the coefficient of determination (R²) is 0.095. This means that approximately 9.5 percent of the variation in firm value is explained by the independent variables included in the model, namely financial capital disclosure, human

capital disclosure, social capital disclosure, and relational capital disclosure. Although the explanatory power of the model is relatively low, this is not unusual in corporate disclosure studies because firm value is influenced by numerous other factors beyond intellectual capital disclosure. The F statistic of 2.742 with a probability value of 0.032 indicates that the regression model is statistically significant at the 5 percent level. This implies that the independent variables jointly influence firm value and that the regression model provides a meaningful explanation of the relationship between intellectual capital disclosure and firm value.

➤ Normality Test

Table 5 Normality Test Result

Test	Value
Jarque-Bera Statistic	1330.99
Probability	0.000

Source: SPSS Computation, 2026

The normality test was conducted using the Jarque–Bera statistic to examine whether the residuals from the regression model follow a normal distribution. The results show a Jarque–Bera statistic of 1330.99 with a probability value of 0.000. Since the probability value is less than the conventional significance level of 0.05, the null hypothesis of normal distribution is rejected. This indicates that the

residuals are not perfectly normally distributed. However, in large sample studies, the violation of the normality assumption is generally not considered critical because the central limit theorem ensures that the regression estimates remain reliable.

➤ Multicollinearity Test

Table 6 Variance Inflation Factors

Variable	VIF
FCD	1.26
HCD	7.30
SCD	10.35
RCD	8.67

Source: SPSS Computation, 2026

The multicollinearity test was performed using the Variance Inflation Factor (VIF). The results show that financial capital disclosure has a VIF value of 1.26, indicating that multicollinearity is not a concern for this variable. However, human capital disclosure, social capital disclosure, and relational capital disclosure have relatively high VIF

values. Social capital disclosure, in particular, has a VIF slightly above the conventional threshold of 10, suggesting the presence of multicollinearity. This may be attributed to the strong

➤ Heteroskedasticity Test

Table 7 Breusch-Pagan Test for Heteroskedasticity

Statistic	Value
Chi-square	3.54
Probability	0.472

Source: SPSS Computation, 2026

The heteroskedasticity test was conducted using the Breusch–Pagan test to determine whether the variance of the residuals is constant across observations. The test result shows a probability value of 0.472, which is greater than the significance level of 0.05. This indicates that the null hypothesis of homoskedasticity cannot be rejected. Therefore, the regression model does not suffer from heteroskedasticity, and the variance of the error terms can be considered constant.

➤ *Test of Hypotheses*

- H_{01} : Financial capital disclosure has no significant effect on firm value. The regression result shows a coefficient of 3.059, t-statistic of 3.191, and probability value of 0.002. The positive coefficient indicates a positive relationship with firm value. Since the probability value is below 0.05, the null hypothesis is rejected. Thus, financial capital disclosure has a statistically significant positive effect on firm value, suggesting that greater financial transparency may improve investor confidence and market valuation.
- H_{02} : Human capital disclosure has no significant effect on firm value. The result shows a coefficient of -1.039 , t-statistic of -0.518 , and probability value of 0.605. Although the coefficient indicates a negative relationship, the probability value exceeds 0.05. Therefore, the null hypothesis cannot be rejected, indicating that human capital disclosure has no statistically significant effect on firm value.
- H_{03} : Social capital disclosure has no significant effect on firm value. The regression produces a coefficient of 2.515, t-statistic of 1.246, and probability value of 0.215. Despite the positive relationship, the probability value exceeds 0.05. Hence, the null hypothesis cannot be rejected, indicating that social capital disclosure does not significantly affect firm value.
- H_{04} : Relational capital disclosure has no significant effect on firm value. The coefficient is -2.850 , with a t-statistic of -1.308 and probability value of 0.194. Although the relationship is negative, the probability value is above 0.05. Thus, the null hypothesis cannot be rejected, indicating that relational capital disclosure has no statistically significant effect on firm value.

V. DISCUSSION ON FINDINGS

The findings reveal that financial capital disclosure has a significant positive effect on firm value, while human capital, social capital, and relational capital disclosures do not have significant effects. This suggests that investors and other stakeholders may place greater emphasis on financial information when evaluating the performance, prospects, and value of firms. Comprehensive disclosure of financial capital can enhance transparency and reduce information asymmetry between management and investors. When relevant financial information is readily available, investors may be better positioned to assess the financial strength and future prospects of a firm, thereby increasing confidence and potentially improving its market valuation.

The significant effect of financial capital disclosure may also reflect the continued importance of conventional financial information in investment decisions. Although integrated reporting encourages firms to communicate both financial and non-financial resources, financial information remains relatively easier for investors to interpret, compare, and incorporate into valuation decisions. The finding therefore indicates that transparent reporting of financial resources remains an important mechanism through which firms can strengthen market confidence and communicate their value-creation capacity.

However, human capital disclosure was found to have no significant effect on firm value. This suggests that information concerning employees' knowledge, skills, experience, training, and competencies may not immediately influence investors' valuation decisions. One possible explanation is that human capital is difficult to measure and its contribution to future performance may take considerable time to materialize. Investors may therefore regard such disclosures as useful supplementary information rather than as a direct determinant of firm value.

Similarly, social capital disclosure was found to have no significant effect on firm value. Although social capital, including organizational processes, innovation capabilities, and internal systems, can contribute to efficiency and long-term competitiveness, its financial benefits may not be immediately observable. Investors may consequently find it difficult to translate such information into measurable changes in firm value. The finding does not necessarily imply that social capital is unimportant, but rather that its contribution may be indirect or realized over a longer period.

The absence of a significant effect of relational capital disclosure also indicates that information concerning relationships with customers, suppliers, business partners, and other stakeholders may not directly influence market valuation. While strong stakeholder relationships can support customer loyalty, business continuity, and sustainable performance, investors may continue to prioritize information that has a more direct and measurable connection with financial outcomes. The findings suggest that the market places greater value on financial capital disclosure than on the other dimensions examined. This highlights the need for firms to maintain transparent financial reporting while improving the quality, relevance, and measurability of non-financial disclosures. Better communication of how human, social, and relational resources contribute to future value creation may enable investors to appreciate their importance more effectively.

VI. CONCLUSION AND POLICY RECOMMENDATIONS

In light of the findings, the following conclusion and recommendations are made:

- Conclusion; To entrench a formidable consumer good product industry with a consolidated firm value for attracting investors and sustained patronage towards

economic growth and sustainability in Nigeria, transparency of integrated reporting must be the industry's watchword

- Recommendations: First, the Nigerian consumer good firms should continue to enhance the quality and transparency of their financial capital disclosures, as these disclosures have been shown to significantly influence firm value. Providing detailed and reliable financial information can improve investor confidence and strengthen the firm's reputation in the capital market.

Second, there should be improvement on the structure and presentation of human capital disclosures by providing more quantitative and measurable information relating to employee productivity, training investments, and workforce performance. This may help investors better understand the economic value of human capital within the organization.

Third, all firms should strengthen the disclosure of social capital by providing more comprehensive information about their innovation systems, organizational processes, and technological capabilities. Such disclosures may help stakeholders appreciate the long-term strategic capabilities of the firm.

Fourth, companies should improve relational capital disclosure by clearly demonstrating how relationships with customers, suppliers, and other stakeholders contribute to value creation and competitive advantage. This could enhance the relevance of relational capital information to investors and other stakeholders.

Finally, regulatory authorities and standard-setting bodies should consider developing clearer guidelines or frameworks for intellectual capital disclosure to ensure greater consistency and comparability in corporate reporting practices.

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