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RESEARCH ARTICLE

Mediators of Non-Financial Disclosures and Firm Value of Consumer Goods Companies

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The study examines the mediators of non-financial disclosures and firm value among non-financial firms quoted in the consumer goods sector of the Nigeria Stock Exchange (NSE) for the period 2011 to 2018. A quantitative approach using structural equation modeling (SEM) path analysis was applied to investigate the mediating role of proposed channels of transmitting non-financial disclosures to firm value. The study finds that non-financial disclosures have significant effects on the firm value of quoted consumer goods firms in Nigeria. Profitability was found to significantly mediate the effect of social disclosures on the firm value of sampled firms in Nigeria, but the mediating effect on the environmental disclosures and firm value nexus was insignificant. The cost of capital significantly mediates the effect of both social and environmental disclosure on the firm value of consumer goods firms in Nigeria. Earnings quality was seen to be an insignificant mediator of non-financial disclosure and firm value of consumer goods firms in Nigeria. The significance of profitability and cost of capital as mediators of non-financial disclosures and firm value practically implies that management must ensure that non-financial disclosures are focused on improving profitability through increased sales engendered by enhanced public image, as well as achieving reduced finance cost, for such disclosures to have meaningful effects on firm value. The implication is that standardizing and regulating non-financial disclosures in Nigeria will benefit firms and enhance the quality and reliability of firms' valuations.

Keywords: Cost of Capital, SEM, Non-financial disclosure, Sustainability, Profitability, Signaling theory, Mediation, Value relevance, Earnings quality

***JEL Classification*:** Q56; C30; M41; E16

The quality of non-financial information available to stakeholders is one way of assessing whether a firm is living up to value expectations. Such disclosures enable stakeholders to appraise and compare firms on social, economic, and ethical dimensions. It involves reporting the non-statutory aspects of a firm's performance and extending its accountability horizon towards sustainability (Blowfield & Murray, 2011). Various

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social and environmental abuses by corporate entities have led to stakeholders developing negative attitudes and behaviors towards businesses. Disclosing social and environmental information could help maintain a good reputation or remedy a firm's bad reputation in the eyes of stakeholders. Disclosure of non-financial performance and activities of a firm are non-mandatory but have become fashionable in recent times, as there are increased demands from a variety of stakeholders to integrate social and environmental considerations into their reporting framework.

The information transparency achieved through non-financial disclosure reduces information asymmetry, which enhances the alignment of managers' and shareholders' interests and reduces agency conflict (Haryono & Iskandar, 2015). A higher level of disclosure reduces information asymmetry, results in lowering the risk level, and may eventually lower the cost of equity. Consistent with signaling theory, such disclosure could be a pointer that the firm manager is running the company for the benefit of stakeholders and that it is conscious of the social and environmental well-being of stakeholders, which guarantees the sustainability of the firm.

Researchers like Bidhari et al. (2013) and Duke and Kankpang (2011) have identified non-financial disclosures as a determinant of firms' profitability. Likewise, economic well-being has been referred to as the main driver of firm value, which reflects the efficiency and effectiveness of a firm's core business functions (Su et al., 2016). Similarly, the cost of capital is influenced by the extent of disclosure of non-financial activities as it lowers risk and reduces information asymmetry (Jo & Na, 2012). The cost of capital has a great deal of value and relevance in literature (Abdul-Sattar, 2015). Signaling theory and information asymmetry theory explain the effect of adequate information disclosure on the analysts' and shareholders' valuation of a company. In developed economies, a plethora of empirical evidence exists on the effect of non-financial disclosures on firm value (Hassel, et al., 2005; Semenova et al., 2009; Temiz, 2021). In Nigeria, a large portion of the literature is based on the extent or level of social and environmental disclosures (Uwuigbe & Jimoh, 2012), environmental responsibility, and firm performance (Bassey et al., 2013; Duke & Kankpang, 2011). The literature reveals a paucity of Nigerian studies on the value relevance of non-financial disclosures. Although Oba and Fodio (2012), Olayinka, and Oluwamayowa (2014), and Okpala and Iredele (2018) have looked at the effect of non-financial disclosures on the firm value of listed Nigerian firms, none of these studies have considered the channels of transmitting such disclosures to value. It is difficult to establish from theory and the literature that a direct link exists between non-financial disclosures and firm value (Fauzi et al., 2007; Tjia & Setiawati, 2012; Nyirenda, 2013; Singh, 2014) despite the continuous call for improvement in non-financial disclosures by regulators and researchers. This lacuna, therefore, provides motivation for the study with an opportunity to extend prior literature on the channel of transmitting non-financial disclosures to value. We consider the mediating effects of profitability and cost of capital in transmitting non-financial disclosures to firm value, providing evidence from non-financial firms quoted in the consumer goods sector of the Nigeria Stock Exchange (NSE). To the best of our knowledge, the study is the first to provide Nigerian evidence on profitability, cost of capital, and earnings quality as channels of transmitting non-financial disclosures to firm value. It also introduced cost of capital as a mediating variable in the literature on non-financial disclosure and firm value of consumer goods firms. To actualize this, answers were provided to the following research questions.

i. What effect does non-financial disclosures have on the firm value of consumer goods firms in Nigeria?
ii. To what extent does profitability mediate the effect of non-financial disclosures on firm value of consumer goods firms in Nigeria?
iii. To what extent does the cost of capital mediate the effect of non-financial disclosures on firm value of consumer goods firms in Nigeria?
iv. To what extent does earnings quality mediate the effect of non-financial disclosures on firm value of consumer goods firms in Nigeria?

Theoretical Framework

The study is principally hinged on the signaling theory. The signaling theory was first used by Michael Spence (1973) in his study on job market signaling. It explains the disparity in information availability between two parties where the sources of asymmetry are principally about the information on quality and

information on intent (Stiglitz, 2000). By quality, we mean one party showing its unobservable attributes in exchange for a premium from the other party (King et al., 2005). Intent relates to reducing the potential moral hazards that result from the behavior of the exchange parties (Sanders & Boivie 2004). Relying on this, accounting and management scholars such as Bukit and Nasution (2016) and Marwa et al. (2020) have adapted the signaling theory in rationalizing non-financial disclosures and their potential benefits for firms involved in such practices. Corporate non-financial disclosures are signals that provide further insights to stakeholders, especially in emerging economies where various sources of information, such as analyst stock recommendations, are not readily available for investors to evaluate and make informed decisions (Su et al., 2016). This could be veritable in stakeholders' evaluation of firms' potential quality and value (Sanders & Boivie, 2004).

Also, the study relies on the stakeholders' theory of organizational management developed by Edward Freeman in 1984, which centers on the principles and morals that should be considered when managing a company. The idea describes and recommends techniques for dealing with many stakeholder groups that make up a corporation for management to consider those groups' interests. The stakeholder theory argues that non-financial disclosures represent an attempt by managers to serve the interests of a wider stakeholder group via the social and environmental bottom lines (Ramadhini et al., 2020). The stakeholder theory views the disclosure of non-financial information as a means of incentivizing stakeholders to support an organization's ongoing operations (Evangelinos & Skouloudis, 2014).

Scholars from different parts of the world have at various times carried out several studies on the implications of non-financial disclosure practices on the value and performance of firms. Prior research results on social and environmental disclosure and firm value have been mixed and conflicting. Although some studies showed a positive relationship between non-financial disclosures and the firm value (Konar & Cohen, 2000; Margolis et al., 2009; Vijfvinkel et al., 2011; Barnet and Salomon, 2011; Tilakasiri, 2012; Aggarwal, 2013; Bidhari et al., 2013), other studies like Fauzi et al. (2007), Tjia and Setiawati (2012), Nyirenda (2013), and Singh (2014), revealed that there is no significant relationship between non-financial disclosures and firm value. There are also results that show mixed relationships (Nguyen et al., 2015) and negative relationships (Hassel et al., 2005; Hirigoyen & Rehm, 2015). These conflicting results could be the product of various methodologies or could be caused by the poor understanding of the factors that make non-financial disclosures affect the value of a firm.

Literature Review and Hypotheses Development

This section entails a review of the literature on firm value, non-financial disclosures, and their relationships with the proposed mediators (profitability, earnings quality, and cost of capital), giving rise to the hypotheses of the study. The review follows Baron and Kenny's (1986) standard conditions for establishing a mediating relationship, showing the nexus between each independent variable and the proposed mediators, as well as between the proposed mediators and the dependent variable.

Non-Financial Disclosure, Firm Profitability, and Firm Value

A considerable body of academic research has investigated various financial implications of a firm's corporate non-financial disclosures (Lee, 2020). Good products come from good operations, and good operations come from good employees. Employees who work in an ethical environment are more likely to speak about it and develop a sense of belonging to the company (Asemah et al., 2013). Managers and individuals are usually able to identify what is meant by acting ethically. Therefore, it is expected to behave in accordance with the CSR perspective. This will eventually affect the company's operations and reputation (Cacioppe et al., 2008). In accordance, Branco and Rodrigues (2006) and Galbreath (2008) have found that investing in CSR could attract superior employees in non-financial disclosures that may be regarded by investors as a management skill that aims to build a reputation and achieve long-term objectives. Furthermore, evidence shows that customers are willing to pay more for socially responsible products. For instance, customers are willing to pay more for eggs that are produced by ethically treated chickens. Likewise, customers would pay more for products that are labeled "fair-trade." Therefore, corporate social and environmental products and operations may offer

a significant competitive advantage (Gamerschlag et al., 2011). This reduction in information asymmetry motivates workers to be more productive, and the firm's product gains more patronage from the public.

Although corporate non-financial disclosures could influence firm value, the main driver of firm value should be the level of efficiency and effectiveness in core business functions, as seen in the profitability of firms (Tui et al., 2017). Profitability is considered as a barometer of success of a company in applying the decisions that have been taken. So, if the performance of a company is impressive, then the investor will respond by investing in the company. This has the tendency of improving the company's stock price, and as the company's stock price increases, there is a corresponding increase in the value of the firm. Profitability shows that a company's ability to generate profit by utilizing its total equity. The influence of profitability on company value is supported by signaling theory. Where the positive signal shown by the company through high profitability level gives value to the company, the profitable company will deliberately give the signal to the market in the form of information, so that the signal is effective, well perceived, and not easily imitated by companies with poor profitability (Sari, 2017). Sucuahi and Cambarihan (2016), Sabrin et al. (2016), and Sari (2017) provided empirical evidences that firm profitability has a positive significant effect on the firm value. Based on the review, the study hypothesizes that:

H_1: Profitability is a significant mediator of the effect of non-financial disclosures on the firm value of quoted consumer goods firms in Nigeria.

Non-Financial Disclosures, Cost of Capital and Firm Value

Corporate non-financial disclosures involve the management of perceptions and making people, both internal and external to the company, have a sense of belonging to the entity (Frynas, 2005). Although corporate social and environmental disclosure could influence firm value, the perception of both the internal and external providers of capital on the threats, sustainability and safety of their investment, and assurance of continuous patronage from customers with the firms' products and activities, as influenced by social and environmental disclosures is more likely to affect the level of information asymmetry, firm risk, and influence the cost of raising capital.

Corporate non-financial reporting enables investors to measure the social, environmental, and political risk of an entity. It is argued that having different dimensions of disclosed information gains the trust of investors, resulting in reduced information asymmetry in the capital market and bringing about improved transparency and reduced information cost to providers of capital (Cormier et al., 2009). In a study by Barth et al. (2013), empirical evidence was significant that those firms with more transparent reporting enjoy a lower cost of capita. Non-financial disclosure tends to reduce the level of information asymmetry between managers and other stakeholders. This indirectly gives rise to a lower financing cost as a result of reduced asymmetry and uncertainty (Core, 2001).

The cost of capital is often viewed as an index that reflects the extent to which disclosure provides value-relevant information to users of financial statements. Managing a firm's cost of capital has become one of the most important issues to many financial executives as they strive to identify an appropriate level of cost of capital. Thus, its requirement has an impact on the market valuation of a business because shareholders and investors analyze to invest their money into a business that will maximize value. For an investment to be valuable, the predictable return on capital has to be higher than the cost. A firm should, therefore, make efforts to achieve an appropriate cost of capital so it can satisfy its shareholders and increase its value (Abdul-Sattar, 2015). Based on the review, the study hypothesizes that:

H_2: Cost of capital is a significant mediator of the effect of non-financial disclosures on firm value of quoted consumer goods firms in Nigeria.

Non-Financial Disclosures, Earnings Quality, and Firm Value

Non-financial disclosure reduces the level of uncertainty in the market by providing a better interpretation of financial information, thereby ensuring that value-relevant information is communicated to capital market participants (Swarnapali, 2020). Reliability is an important characteristic of accounting information that is useful for decision-making. Reliability is lost where earnings manipulation is

prevalent, and users lose confidence in the credibility of reported figures, which do not show a true and fair view of the performance and state of affairs. It is expected that effective non-financial disclosures improve users' confidence in published financial statements, improve the informativeness of earnings, and eliminate earnings manipulation tendencies, which will culminate in improved firm value. Stemming from the review above, the study hypothesizes that:

H_3: Earnings quality is a significant mediator of the effect of non-financial disclosures on firm value in quoted consumer goods firms in Nigeria.

Methodology

Research Design and Data

Using an expost facto design, the study sourced panel data from the annual reports of the 20 quoted firms in the Consumer goods sector of the Nigerian Stock Exchange for the period 2011 to 2018 (eight years). The data were retrieved from the annual reports of the selected companies obtained from the MachameRatios® database, which has been widely used in academic research.

This sector was chosen because firms in this sector in Nigeria are very sensitive regarding social and environmental issues. The sector has 21 firms,

Table 1. *Final Sample Size of the Study*

	Observations
Number of firms in the consumer goods sector listed in the Nigeria stock exchange from 2011 to 2018 (21 firms x 8 years)	168
Firms with incomplete data (1 firm x 8 years)	8
Total sample	**160**

Source: Nigerian Stock Exchange (2019)

Table 2. *List of Variables Used in the Analysis*

Variables	Notation	Nature	Measurement	Justification/ Source
Firm Value	FVAL	Dependent	Tobin's Q (summation of market capitalization and total liabilities minus the net cashflow to total assets)	Osifo & Evbayiro-Osagie (2020); Haryono & Iskandar (2015)
Social Disclosure	SD	Independent	Social Disclosure Index	Machame (2017)
Environmental Disclosure	ED	Independent	Environmental Disclosure Index	Machame (2017)
Profitability	ROA	Mediating	Ratio of EBIT to total asset	Ojenike et al., (2013)
Cost of capital	COC	Mediating	Finance cost to revenue ratio	Machame (2017)
Earnings quality	EARNQ	Mediating	Modified Jones model	Dechow et al. (1995); Scipper & Vincent (2003)
Firm Size	FSIZE	Control	Log of total assets	Ohaka & Akani (2017)
Dividend Policy	DIV	Control	Dividend Pay-out ratio (dividend per share divided by earnings per share)	Lumapow & Tumiwa (2017)
Age	FAGE	Control	No of listing years	Machame (2017)

Source: Researchers' compilation, 2023

but the study excluded one firm that was on the verge of being delisted and had incomplete data and poor documentation with the stock exchange.

Table 2 shows the list and description of variables used in the study.

Econometric Models

Modeling Direct Effect of Non-Financial Disclosures on Firm Value

$$FVAL = (SD, ED, FSIZE, FAGE, DIV, ROA, COC, EARNQ) \quad (1)$$

$$FVAL_{it} = \beta 0 + \beta 1\ SD_{it-1} + \beta 2\ ED_{it-1} + \beta 3\ FSIZE_{it} + \beta 4\ FAGE_{it} + \beta 5\ DIV_{it} + \beta 6\ ROA_{it} + \beta 7\ COC_{it} + \beta 8\ EARNQ_{it} + \varepsilon_{it} \quad (2)$$

In testing for the mediating effects of profitability and cost of capital, the study followed the steps for mediation analysis suggested by Baron and Kenny (1986), who stated that mediation analysis is comprised of three sets of regression: X → Y, X → M, and X + M → Y, where X, Y, and M are the independent variable, dependent variable, and mediating variable, respectively. The study modifies Bukit and Nasution's (2016) model as shown in the equations below

Modeling Mediating Effect of Profitability on the Effect of Social Disclosure on Firm Value

$$FVAL_{it} = \beta 0 + \beta 1\ SD_{it-1} + \beta 2\ COC_{it} + \beta 3\ FSIZE_{it} + \beta 4\ DIV_{it} + \beta 5\ FAGE_{it} + \varepsilon_{it} \quad (3)$$

$$ROA_{it} = \beta 0 + \beta 1\ SD_{it-1} + \beta 2\ COC_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5\ ROA_{it-1} + \beta 6\ FAGE_{it} + \varepsilon_{it} \quad (4)$$

$$FVAL_{it} = \beta 0 + \beta 1 FSIZE_{it} + \beta 2 DIV_{it} + \beta 3 ROA_{it} + \beta 4 FAGE_{it} + \varepsilon_{it} \quad (5)$$

$$FVAL_{it} = \beta 0 + \beta 1\ SD_{it-1} + \beta 2\ COC_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5\ ROA_{it} + \beta 6\ FAGE_{it} + \varepsilon_{it} \quad (6)$$

Modeling Mediating Effect of Cost of Capital on the Effect of Social Disclosure on Firm Value

$$FVAL_{it} = \beta 0 + \beta 1\ SD_{it-1} + \beta 2\ FROA_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5\ FAGE_{it} + \varepsilon_{it} \quad (7)$$

$$COC_{it} = \beta 0 + \beta 1\ SD_{it-1} + \beta 2\ COC_{it-1} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5\ ROA_{it} + \beta 6\ FAGE_{it} + _{it} \quad (8)$$

$$FVAL_{it} = \beta 0 + \beta 1 FSIZE_{it} + \beta 2 DIV_{it} + \beta 3 COC_{it} + \beta 4 FAGE_{it} + \varepsilon_{it} \quad (9)$$

$$FVAL_{it} = \beta 0 + \beta 1\ SD_{it-1} + \beta 2\ COC_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5\ ROA_{it} + \beta 6\ FAGE_{it} + \varepsilon_{it} \quad (10)$$

Modeling Mediating Effect of Profitability on the Effect of Environmental Disclosure on Firm Value

$$FVAL_{it} = \beta 0 + \beta 1\ ED_{it-1} + \beta 2\ COC_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5\ FAGE_{it} + \varepsilon_{it} \quad (11)$$

$$ROA_{it} = \beta 0 + \beta 1\ ED_{it-1} + \beta 2\ COC_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5 ROA_{it-1} + \beta 6\ FAGE_{it} + \varepsilon_{it} \quad (12)$$

$$FVAL_{it} = \beta 0 + \beta 1 FSIZE_{it} + \beta 2 DIV_{it} + \beta 3 ROA_{it} + \beta 4 FAGE_{it} + \varepsilon_{it} \quad (13)$$

$$FVAL_{it} = \beta 0 + \beta 1\ ED_{it-1} + \beta 2\ COC_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5 ROA_{it} + \beta 6\ FAGE_{it} + \varepsilon_{it} \quad (14)$$

Modeling Mediating Effect of Cost of Capital on the Effect of Environmental Disclosure on Firm Value

$$FVAL_{it} = \beta 0 + \beta 1\ ED_{it-1} + \beta 2\ FROA_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5 FAGE_{it} + \varepsilon_{it} \quad (15)$$

$$COC_{it} = \beta 0 + \beta 1\ ED_{it-1} + \beta 2\ COC_{it-1} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5 ROA_{it} + \beta 6\ FAGE_{it} + \varepsilon_{it} \quad (16)$$

$$FVAL_{it} = \beta 0 + \beta 1 FSIZE_{it} + \beta 2 DIV_{it} + \beta 3 COC_{it} + \beta 4 FAGE_{it} + \varepsilon_{it} \quad (17)$$

$$FVAL_{it} = \beta 0 + \beta 1 ED_{it-1} + \beta 2 COC_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5 ROA_{it} + \beta 6\ FAGE_{it} + \varepsilon_{it} \quad (18)$$

Modeling Mediating Effect of Earnings Quality on the Fffect of Environmental Disclosure on Firm Value

$$FVAL_{it} = \beta 0 + \beta 1\ ED_{it-1} + \beta 2\ FROA_{it} + \beta 3\ FSIZE_{it} + \beta 4 DIV_{it} + \beta 5 FAGE_{it} + \varepsilon_{it} \quad (19)$$

$$EARNQ_{it} = \beta0 + \beta1\ ED\ _{it-1} + \beta2\ COC_{it-1} + \beta3\ FSIZE_{it} + \beta4DIV_{it} + \beta5EARNQ_{it-1} + \beta6\ FAGE_{it} + \varepsilon_{it} \quad (20)$$

$$FVAL_{it} = \beta0 + \beta1FSIZE_{it} + \beta2DIV_{it} + \beta3EARNQ_{it} + \beta4FAGE_{it} + \varepsilon_{it} \quad (21)$$

$$FVAL_{it} = \beta0 + \beta1ED_{it-1} + \beta2EARNQ_{it} + \beta3\ FSIZE_{it} + \beta4DIV_{it} + \beta5ROA_{it} + \beta6\ FAGE_{it} + \varepsilon_{it} \quad (22)$$

Modeling Mediating Effect of Earnings Quality on the Effect of Social Disclosure on Firm Value

$$FVAL_{it} = \beta0 + \beta1\ SD\ _{it-1} + \beta2\ FROA_{it} + \beta3\ FSIZE_{it} + \beta4DIV_{it} + \beta5FAGE_{it} + \varepsilon_{it} \quad (23)$$

$$EARNQ_{it} = \beta0 + \beta1\ SD\ _{it-1} + \beta2\ COC_{it-1} + \beta3\ FSIZE_{it} + \beta4DIV_{it} + \beta5EARNQ_{it-1} + \beta6\ FAGE_{it} + \varepsilon_{it} \quad (24)$$

$$FVAL_{it} = \beta0 + \beta1FSIZE_{it} + \beta2DIV_{it} + \beta3EARNQ_{it} + \beta4FAGE_{it} + \varepsilon_{it} \quad (25)$$

$$FVAL_{it} = \beta0 + \beta1SD_{it-1} + \beta2EARNQ_{it} + \beta3\ FSIZE_{it} + \beta4DIV_{it} + \beta5ROA_{it} + \beta6\ FAGE_{it} + \varepsilon_{it} \quad (26)$$

Method of Data Analysis

Analyses include the use of **structural equation** modeling (SEM) and path diagram. The study employs model fit indices like the root mean square error of approximation (RMSEA), relative/normed chi-square (CMIN), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), comparative fit index (CFI), and normed fit index (NFI).

Empirical Findings and Discussion

Presentation and Analyses of Results

Model Fit

The chi-square value is shown in Table 3.

Table 3. *Model Chi-Square (CMIN) Value*

	CMIN	*Df*	Probability
Default model	10.989	11	.444 (p>.05)

Source: IBM Amos 23

The relative/normed chi-square (χ^2/df) is an alternative measure with relatively minimal impact of sample sizes (Wheaton et al., 1977). The relative/normed chi-square value is shown in Table 4.

Table 4. *Relative/Normed Chi-Square Value*

	CMIN	*Df*	χ^2/df
Default model	10.989	11	0.999

Source: IBM Amos 23

Absolute and Incremental Fit Indices

The null hypothesis of the RMSEA is that of "close fit" (Browne & Cudeck, 1993). The RMSEA of the default model is shown in Table 5.

Table 5. *RMSEA Value*

	RMSEA	LO	HI
Default model	.000	.000	0.083

Source: IBM Amos 23

The RMSEA value for the default model is .000, RMSEA values in the range of 0.00 to 0.05 is considered a good fit. The lower limit is .000 and the upper limit value .083; cut-off values close to .06 (Hu & Bentler, 1999) and an upper limit of 0.07 (Steiger, 1990; Steiger, 2007) are generally considered by scholars as tolerable levels. The fit indices values are shown in Table 6.

Table 6. Fit Indices (Absolute & Incremental)

	NFI	TLI	CFI	GFI	AGFI
Normed Fit Index	.972				
Tucker-Lewis Index		.934			
Comparative Fit Index			.978		
Goodness-of-Fit Index				.983	
Adjusted Goodness-of-Fit Index					.945

Source: IBM Amos 23

The NFI analysis involves assessing the model by comparing the χ^2 value of the model to the χ^2 of the null model. The null/independence model is the worst-case scenario as it specifies that all measured variables are uncorrelated. The value of NFI is 0.972. According to Bentler and Bonet (1980), values $\geq$ 0.90 are highly

recommended. TLI (Non-Normed Fit Index) value was 0.934; according to Bentler and Bonet (1980), TLI ≥ 0.90 is highly satisfactory. One severe limitation of the NFI and TLI is that both are highly sensitive to sample sizes. One measure that is not affected by sample size is the CFI; this statistic assumes that all latent variables are uncorrelated (null/independence model) and compares the sample covariance matrix with this null model. Studies have shown that values greater than 0.90 are needed to ensure that mis-specified models are not accepted (Hu & Bentler, 1999). The CFI of the model is .978 ≥ 0.95; this value from prior studies is considered a good fit. In conclusion, RMSEA-values ≤ .07 in combination with a value for CFI or TLI ≥ .90 suggest an acceptable model fit (Hair et al., 2010). The GFI measures the fit between the hypothesized model and the observed covariance matrix, whereas the AGFI corrects the GFI value. GFI within the range of (.95 ≤ GFI ≤ 1.00) is considered a good fit, whereas AGFI within the range of (.90 ≤ AGFI ≤ 1.00, close to GFI) is also considered a good fit (Schermelleh-Engel et al., 2003).

Hypotheses 1, 2, and 3 were tested using SEM as shown in Tables 7 and 8.

Table 7. *Path Coefficients (Revised Model)*

Variables		Variables	Estimate	S.E.	C.R.	P	Label
PROFITABILITY	<---	SOCIALDISCLOSURE	27.365	6.588	4.154	***	A
PROFITABILITY	<---	ENVIRONMENTALDISCLOSURE	1.591	4.500	.354	.724	D
COSTOFCAPITAL	<---	ENVIRONMENTALDISCLOSURE	-3.604	2.682	-1.344	.179	E
LOGOFTOTALASSET	<---	SOCIALDISCLOSURE	3.476	.535	6.493	***	
FIRMSIZE	<---	ENVIRONMENTALDISCLOSURE	1.476	.347	4.247	***	
FIRMGAGE	<---	ENVIRONMENTALDISCLOSURE	19.618	2.664	7.364	***	
FIRMSIZE	<---	PROFITABILITY	.027	.006	4.427	***	
COSTOFCAPITAL	<---	SOCIALDISCLOSURE	3.881	3.927	.988	.323	C
FIRMVALUE	<---	PROFITABILITY	-.287	.040	-7.259	***	B
FIRMVALUE	<---	DIVIDEND	.000	.000	-.232	.817	
FIRMVALUE	<---	FIRMSIZE	-1.631	.465	-3.505	***	
FIRMVALUE	<---	FIRMAGE	.026	.051	.519	.603	
FIRMVALUE	<---	COSTOFCAPITAL	-.143	.063	-2.279	.023	F
EARNINGSQUALITY	<---	SOCIALDISCLOSURE	1.231	3.510	.354	.614	G
EARNINGSQUALITY	<---	ENVIRONMENTALDISCLOSURE	1.761	4.403	.472	.592	I
FIRMVALUE	<---	EARNINGSQUALITY	.137	5.320	1.059	.718	H

Source: IBM Amos 23

Table 8. *Model Indirect Effects (Default model)*

Indirect Paths	Coefficient	Probability
a * b	-7.862	.016
c * f	-.557	.043
d * b	-.457	.349
e * f	.517	.022
g*h	.354	.413
i*h	.424	.317

Source: IBM Amos 23

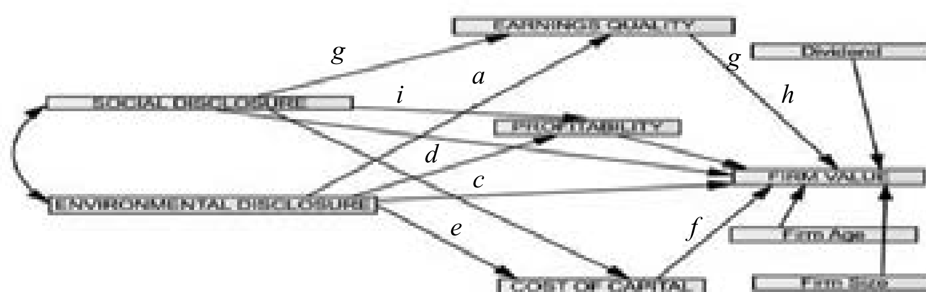

Figure 1

Revised Path Diagram Revealing Mediating Effects
Source: IBM Amos 23

Path Diagram

Figure 1 shows the revised path diagram revealing mediating effects.

Discussion of Findings

The study finds that non-financial disclosures have a significant effect on the firm value of sampled firms in Nigeria. This is in tandem with the signaling theory, as non-financial information disclosure sends positive signals to users of accounting information, improving the valuation of sampled firms during the study period. In support of this is the study by Okafor (2018) on a sample of firms in the Nigerian Oil and Gas sector, which showed a positive relationship between improved environmental and business value. Also, the study by Olayinka and Oluwamayowa (2014) of quoted companies in Nigeria revealed that the inclusion of environmental information in annual reports enhances the market valuation of firms. Similarly, Earnhart and Lizal (2007) documented that improved environmental performance in the Czech Republic affects profitability by driving down costs more than driving down revenue. This implies that non-financial disclosures have a significant effect on the firm value (Odoemelam & Okafor, 2018; Ofoegbu et al., 2018; Okpala & Iredele, 2018; Restrepo et al., 2022).

Profitability significantly mediates the effect of social disclosures on the firm value of sampled firms in Nigeria. Therefore, the null hypothesis of no significant mediating effect is rejected. Profitability reveals the goodwill enjoyed by the firm through increased sales and employees' commitment to a good public image. This result aligns with the stakeholders' theory that firm value is improved when disclosures capture the interest of all stakeholders. In support of this was the study by Nnamani et al. (2017) on a sample of firms in Nigerian breweries, which showed a positive and significant effect of sustainability reporting on financial performance. Another study, which used SEM by Haryono and Iskanda (2015) on companies listed on the Indonesia Stock Exchange, showed that financial performance significantly mediates the effect of corporate social performance on firm value. Profitability does not significantly mediate the effect of the environmental disclosure index on the firm value of quoted non-financial firms in Nigeria. This is contrary to the study by Bukit and Nasution (2016), which found a mediating influence of profitability on the level of voluntary disclosure and firm value.

Cost of capital significantly mediates the effect of non-financial disclosures on the value of quoted non-financial firms in Nigeria. The null hypothesis of no significant mediating effect is rejected. This could be expected as firms may seek to be ethically responsible to avoid risk exposures, as investors now pay increasing attention to corporate social and environmental behavior. It aligns with Lee (2020), who found that CSR disclosures reduce investment inefficiency occasioned by the huge financial cost associated with information asymmetry. The study by Abdul-Sattar (2015) revealed a significant impact of the weighted average cost of capital on firm value but contradicted by Haninun et al. (2019), who reported an insignificant effect of environmental performance on the cost of capital in Indonesian firms. Benlemlih et al. (2016) found a negative and significant association between a firm's non-financial disclosures and idiosyncratic risk. The cost of capital is influenced by non-financial disclosure, thereby lowering risk and reducing information asymmetry. Firms with a social

and environmental reporting vision can negotiate on better terms with fund providers, giving rise to reduced capital costs.

Considering earnings quality as a potential mediating variable, results indicate no significant mediating effect of non-financial disclosures on the value of quoted non-financial firms in Nigeria. Non-financial disclosures from prior studies strengthen the informativeness of earnings (earnings quality), and that is a significant determinant of firm value. Our study is in tandem with Faraji et al. (2020), who reported that earnings quality, measured by the inverse of earnings management, does not significantly mediate the nexus between CSR disclosure and firm value in Iran. Similarly, Muttakin et al. (2015) reported that earnings quality is poor where the capital market is inefficient and lowly regulated. This is contrary to the submission of Swarnapali (2020) that in emerging markets, no financial disclosure has a high level of effect on the quality of earnings as expressed in its value relevance. Our result could be attributed to the poor regulation and absence of standards on non-financial disclosures in emerging economies like Nigeria and the incessant involvement of managers in earnings management practices.

Conclusion

Conclusion of the Study

With the objective of examining the channels of transmitting non-financial disclosures to firm value among non-financial firms quoted in the consumer goods sector of the Nigeria Stock Exchange (NSE), the study used SEM, which confirmed the indirect effects of non-financial (social and environmental) disclosures on firm value. The mediating variables (profitability, earnings quality, and cost of capital) also presented mixed findings on the nature of relationships. The indirect path coefficients of profitability showed that it significantly mediates the effect of the social disclosure index but does not significantly mediate the environmental disclosure index. Cost of capital significantly mediates the effect of non-financial disclosures on firm value, and earnings quality was seen to have insignificant mediating effects. Though the study provides Nigerian evidence on the channel of transmitting disclosures to value using the signaling theory and stakeholders' theory, it also introduces cost of capital as a mediating variable in the literature on non-financial disclosure and firm value in emerging economies.

Implication

Given the significance of profitability and cost of capital as mediators of non-financial disclosures and firm value, the study recommends that management must ensure that non-financial disclosures are geared towards improving profitability and reducing the cost of capital of firms for such disclosures to have meaningful effects on firm value. Information on non-financial issues should form part of the prospectus of a company to reap the benefits of improved firm value. Managers need to proactively tackle stakeholder conflict by improving non-financial disclosure as they leverage the provisional benefits of non-financial disclosure to reduce the firm's capital cost. Similarly, the Securities and Exchange Commission (SEC), especially in developing countries, should enforce more stringent rules that can promote non-financial information disclosure by listed companies, and prospective investors should therefore consider the non-financial disclosure pattern of firms while selecting their investment portfolio, as it is seen to be a value enhancer. Hence, social and environmental disclosures should be geared towards improving profitability and reducing the cost of capital of firms so that such disclosures have meaningful effects on firm value. Therefore, standardizing and regulating non-financial disclosures in Nigeria will benefit firms and reduce adverse selection problems among investors, which enhances the quality and reliability of firm valuation. In practical terms, the originality of this study lies in its focus on providing Nigerian evidence on the channels of transmitting non-financial disclosures to value using the signaling theory and confirming past findings on the impact of disclosures on value. It is one of the first studies to examine cost of capital as a mediating variable in consumer goods firms.

Limitations and Recommendations for Future Researches

Despite the mentioned contributions, the outcome of this research should be interpreted with caution. First, it is difficult to generalize the results of this study to firms in other sectors of the Nigerian stock market. The disclosure indexes used in this study are not uniformly agreed upon and generally recognized indexes, as no standard for non-financial disclosures

exists in Nigeria. Such indexes may suffer from some level of bias and may not be exhaustive, that is, not capturing some aspect of non-financial information disclosed by sampled firms. Also, the study focused on non-financial disclosure in annual reports, ignoring other reporting media used by companies, such as websites and the press.

Thus, further studies should be carried out on firms in other sectors of the stock market, and the scope of non-financial disclosures could be expanded beyond social and environmental disclosures.

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