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SUSTAINABILITY INFORMATION DISCLOSURE AND FINANCIAL REPORTING QUALITY OF LISTED NON-FINANCIAL FIRMS IN NIGERIA

Babatunde Moses OLOLADE and Aderemi Daniel ADEKANMI

Abstract

The study assessed the quality of Financial Reporting and investigated the relationship between Sustainability Information Disclosure and Financial reporting Quality of listed Non-Financial Firms on the Nigerian Stock Exchange. Purposive Sampling Technique was adopted to select a sample of fifty (50) listed Non-Financial Firms among the population of one hundred and twenty-eight Non-Financial Firms based on the availability of their annual reports. Secondary data obtained through content analysis were analysed using descriptive statistics and multiple regression analysis. The study found that there is an increasing trend in the Financial Reporting Quality of listed Non-Financial Firms. Also, sustainability Information disclosure on socio-environmental policy and environmental research and development have significant positive influence on Financial Reporting Quality of Non-Financial Firms Listed on the Nigerian Stock Exchange. The Study recommended that The Financial Reporting Council of Nigeria (FRC), Securities and Exchange Commission (SEC) and Nigerian Stock Exchange (NSE) should form a common front for monitoring compliance with Sustainability Reporting Guidelines and engage in continuous education of the Corporate Stakeholders on use of the Social, Economic and Environmental information in the Annual Reports.

Key Words: Sustainability Reporting, CSR Disclosure, and Financial Reporting Quality

JEL Classification: M48, M49.

1. INTRODUCTION

Financial reporting quality is the fundamental and enhancing qualitative features of financial information disclosed in corporate annual reports of listed firms. The main objective of financial disclosure is to make available high-quality financial information about companies' business activities, mainly financial in nature, expedient for economic decision making (FASB, 1999; IASB, 2015). Company with a sound policy of full disclosure of financial information is likely to enjoy superior stock price in conjunction with lower cost of funds because superior disclosure moderates' investors' anxieties about internal information. Disclosure of high-quality financial information is vital as it will positively impact fund providers and other interested parties in making investment, credit, and resource allocation decisions to enhance market efficiency (Francis *et al.*, 2005; Uwalowma *et al.*, 2016; IASB, 2015). Also, the forces that necessitate an increase in demand for information disclosure in the contemporary capital market result from agency conflicts and information asymmetry between the Board and the Stockholders (Lopes & Alencar, 2010). Financial reports provide the foundation for strategic decisions by the investing community and high-quality financial reporting could enhance firm value. However, as firms invest in environmental issues to cover-up their manipulation of returns; this would affect the quality of financial reporting (Martinez-Ferrero *et al.*, 2013).

Reporting of economic, environmental and social information though not mandatory is regarded as best practice. However, any deviation from the best practice could send a wrong signal to the society and the market since it indicates a poor management of corporate social responsibility and influence of the organization on the environment. Firms that intend to build a good image need to prove themselves to

be socially responsible by ensuring that best practices are observed (Andersen *et al.*, 2012; Martinez-Ferrero *et al*., 2013).

There have been many empirical studies on the examination of the substitutive and complimentary relationships between Corporate Social Responsibility (CSR) and Financial Reporting Quality (FRQ) in developed countries with mixed results (Francis *et al*., 2005; Chih *et al*., 2008; Sun *et al*., 2010; Choi &Pae, 2011; Andersen *et al.*, 2012; Martinez-Ferrero *et al.*, 2013; Timbate & Park, 2018). While Francis *et al.,* (2005) and Andersen *et al.*, (2012) reported a positive relationship between earning quality, a proxy of FRQ, and voluntary financial disclosure, Yip *et al.,* (2011) found empirical evidence of negative relationship between corporate social responsibility reporting and earning management in the oil and gas industry, but a positive relationship in the food industry. The avalanche of studies on the relationship between sustainability information and financial reporting quality in the developed countries brought to fore the global community attention on environmental, social and economic and corporate governance reporting issues which are germane in making economic decisions by corporate stakeholders. However, there is dearth of empirical literature in developing countries including Nigeria on the nexus between sustainability information and financial reporting quality. Therefore, the extent to which sustainability information disclosure influences financial reporting quality has not been extensively investigated empirically even though Nigerian business operating environment is populated with firms whose activities impact the environment negatively through the release of gaseous, liquid and solid waste without proper treatment into the environment with no suitable treatment that meets the fundamental International Standards (Omofonmwan & Osa-Edoh, 2008 and Okeagu *et al.,* 2008).

Although the International Accounting Standard Board (IASB) emphasizes the significance of high-quality financial reporting, operationalization and measurement are issues found to be debatable in prior literature. As a result of its context-specificity, an empirical examination of financial reporting quality embraces preferences among a variety of constituents (Dechow & Dichev, 2002; Botosan, 2004; Daske & Gebhardt, 2006; and Guru, 2017). So far various stakeholders will have different needs, perceived quality would diverge among constituents. Additionally, the users in a stakeholder group could at the same time recognize the usefulness of comparable information in a different way based on its context. Because on this context and user-specific need, measurement of quality directly appears problematic and often result in confuse outcomes (Botosan, 2004; Lawrence *et al.*, 2017). As a result, a lot of scholars determine the quality of financial reporting indirectly through concentrating on features which are believed to affect the quality of financial reporting, relevance, faithful representation, financial restatements, timeliness among others (Cohen *et al.*, 2004). An unanswered question beside how to operationalize and measure the quality of financial reporting is how the nexus between sustainability information disclosure and financial reporting quality can be assessed.

Financial reporting quality requires listed firms to expand the scope and quality of financial reports to assist market participants in making economic decisions. According to Hsiangtsai *et al.,* (2015), firms that practice sustainability reporting tend to have higher quality financial reports. This invariably means that such firms will less engage in earnings management and will often use the flexibility embedded in Generally Accepted Accounting Policies to improve the quality of financial information they provide to the corporate stakeholders. However, listed firms could engage in extensive disclosure of sustainability information to compensate their poor financial information quality (Martinez-Ferrero *et al.,* 2013). The extent of the effect of sustainability information on financial reporting quality in Nigeria has not been extensively examined as few existing empirical literature focuses on sustainability reporting practices, determinant of social corporate reporting, the impact of sustainability reporting on firms' performance, environmental management practices, economic, social and government reporting practices of listed firms in Nigeria (Asaolu *et al.,* 2011; Nosakhare *et.*, 2016; Onyali *et al.,* 2015). This study, therefore, examined the relationship between sustainability disclosure and financial reporting quality of listed firms to contribute to empirical literature and assist corporate managers on the need to

enhance their financial reporting quality through corporate disclosures of sustainability information. Besides, to aid corporate stakeholders in making economic decisions.

The accountability that the financial results of companies communicate is an important aspect of their transparency that cannot be ignored, but financial results alone cannot communicate a company's social and environmental impacts. These impacts are redefining the meaning of business value. This, therefore, implies that business decisions made on the strength of financial information alone are defective in the sense that non-financial information provided through sustainability reporting framework was not taken into considerations. Therefore, to make sound business information there is need for both financial and non-financial information (Brown & Dillard, 2014; Deloitte, 2015).

Non-financial information disclosure through Sustainability reporting is voluntarily practised by companies in Nigeria compare to South Africa where sustainability reporting is on comply or explain basis (Atkins & Maroun, 2015; Ahmed Haji & Anifowose, 2017). Sustainability reporting in Nigeria is therefore lagging until the recent issuance and approval of Sustainability Reporting Guidelines by Securities and Exchange Commission (SEC) for voluntary adoption of listed firms on Nigeria Stock Exchange (NSE) effective 2019 even though listed firms have been following Global Reporting Initiatives voluntarily to disclose their sustainability information. Therefore, the study assessed the financial reporting quality of listed Non-Financial Firms and examined the relationship between sustainability information disclosure and Financial Reporting Quality of listed Non-Financial Firms in Nigeria.

The rest of the paper is structured as follows. Section two sets out the literature review, where we explain the concept of sustainability reporting and financial reporting quality and theoretical framework for the study. Section three is on the methodology applied to achieve the objective of the study. Section four analyses data and interpreted the results, while section five concludes the study with recommendation. Finally, we outline limitations to the study and make suggestions for future studies.

2. LITERATURE REVIEW

2.1 Corporate Social Responsibility (CSR)

CSR could be described as the way firms incorporate economic, social and environmental activities into their culture, decision making, strategy, values and operations. CSR is a developing concept and its underlying paradigm has changed over time (Godfrey & Hatch, 2007). Such incorporation must be accomplished in an accountable and transparent manner and leading to the operation of improved practices within the company and improvement in the society. World Business Council for Sustainable Development defines CSR as the firm contribution to sustainable economic development. Aside from complying with regulations and legislation, CSR consists actions and commitments concerning corporate governance and ethics, health and safety, environmental stewardship, corporate philanthropy and employee volunteering, accountability, human/labour rights, human resource management, community involvement, development and investment, involvement of and respect for Aboriginal peoples, anti-bribery and anti-corruption measures, transparency and performance reporting, supplier relations, for both domestic and international supply chains.

These basics are always interdependent and interconnected and relate to companies no matter where they operate. CSR has recently become an important matter for management. Incorporating its activities in a clear CSR strategy assists companies to position themselves and manage risks proactively and embrace opportunities, especially regarding the firm image and stakeholders' engagement by the board. This may include employees, customers, shareholders, communities, suppliers, non-governmental organizations, governments, international organizations and other parties affected by firms' operations (Martinez-Ferrero *et al*., 2013).

2.1.2 Corporate Social Responsibility Disclosure

To enhance transparency and accountability toward their stakeholders, many firms are now disclosing adequate information on CSR activities in their financial statement and a corresponding report. The Global Reporting Initiative (GRI) offers an extensive framework for the advancement of CSR reporting strategies, with guideline on report content and category of indicators to be chosen or the CSR aspects to be examined. Empirical studies that examine and synthesize CSR disclosure by firms exist, specifically its features and determinants (Ghosh & Moon, 2010; Timbate & Park, 2018). The credibility and relevance of a company's general CSR disclosures remain questionable, for instance, considerable potential for problems exist when concern group observe that a company is ordinarily involving in a public relations activity but unable to show tangible actions taken to advance environmental and social advantages for stakeholders within their operating environment.

Effect of a company's social reporting on information asymmetry between managers and investment community could only be enhanced if the company's environmental and social capital characteristics are apparent in the market, for example through social performance ratings (Yip *et al.,* (2011). Therefore, a firm reporting policy is crucial in supporting the long-term influence of social capital on market risk and performance indicators. Cormier and Gordon (2009), showed that social reporting lessens a company's cost of capital.

Besides, it is likely that the gap between CSR reporting and its recognition by the capital market is more subtle than just assuming that more is better. Neu *et al.,* (1998) considered social disclosure as a determinant of environmental reporting. They opined that social reporting enhances environmental reporting credibility by building the image of socially responsible firms consistent with environmental reporting. Godfrey (2008) however found that a company's involvement in institutional CSR operations create an insurance-like advantage when confronted with legal actions. These CSR activities enable build up equity for the company and eliminate negative market inferences, hence, curtailing information asymmetry for investment community for these companies. These findings suggest that CSR reporting could influence the level of information asymmetry between a company and investors by way of an association between social-related CSR reporting and environmental-related CSR reporting. This view negates the current practice considering both as complementary (Martinez-Ferrero, *et al.,* 2013)

Over a period, sustainability has become a comprehensive concept that stands for economic prosperity, environmental quality and social equity. It has matured to both a general view which implies an environmental challenge and new opportunities for value creation and technological advancement. It is also observed that the hard environmental and socio-economic factors are changing the competitive landscape for corporate sectors all over the world. Numerous signals are surfacing in this regard and numerous factors are already forcing companies to behave responsibly and ethically.

2.2.1 Operationalization of the Qualitative Characteristics of Financial Reporting Quality

To construct a measurement indicator, we used prior researches which explains the quality of financial reporting based on the fundamental and enhancing qualitative characteristics essential to decision usefulness as defined in the Executive Draft (IASB, 2008, 2015). The fundamental qualitative characteristics (relevance and faithful representation) are most important and determine the content of financial reporting information. The enhancing qualitative characteristics (understandability, comparability and timeliness) can enhance decision usefulness when the fundamental qualitative features are established. To guaranty the internal validity of these items the quality measures are premised on prior empirical literature.

Relevance: Relevance could be referred to as the capability of making a difference in the decisions made by users in their capacity as capital provider. (IASB, 2008, 2015). Drawing on prior literature,

relevance is operationalized using four items referring to predictive and confirmatory value. Researchers tend to focus on earnings quality instead of on financial reporting quality. This definition is limited in scope because it neglects non-financial information and it excludes 'future' financial information already available to the users of the annual report, for example on future business transactions. (Jonas & Blanchet, 2000).

In order to improve the comprehensiveness of the quality assessing measurement tool, this study considered a general perspective on predictive value including both financial and non-financial information. Many researchers have operationalized predictive value as the ability of past earnings to predict future earnings (e.g. Francis & Wang, 2004; Lipe, 1990; Schipper & Vincent, 2003). Predictive value explicitly refers to information on the firm's ability to generate future cash flows, information about an economic phenomenon has predictive value if it has value as an input to predictive processes used by capital providers to form their expectations about the future (IASB, 2008, 2015).

Predictive value is being considered as the most important indicator of relevance in terms of decision usefulness. Predictive value is measured using three items. The first item measures the extent to which annual reports provide forward-looking statements. The forward-looking statement usually describes management's expectations for future years of the company. For capital providers and other users of the annual report, this information is relevant since management has access to private information to produce a forecast that is not available to other stakeholders (Bartov & Mohanram, 2004). The second item assesses to what extent the annual reports disclosed information in terms of business opportunities and risks. Jonas and Blanchet (2000) referred to the reciprocation of financial information by non-financial information when referring to predictive value, and the knowledge that can be obtained from business opportunities and risks, since it provides insight into possible future scenarios for the company. The third item measures company's use of fair value. Prior literature usually refers to the use of fair value versus historical cost when discussing the predictive value of financial reporting information (Barth *et al.*, 2001; Hirst, 2004; McDaniel, 2002; Schipper & Vincent, 2003a). It is often asserted that fair value accounting provides more relevant information than historical cost because it represents the current value of assets, instead of the purchase price (Schipper & Vincent, 2003b). In addition, both the FASB and IASB are currently considering new standards to allow more fair value accounting to increase the relevance of financial reporting information since they consider fair value as one of the most important methods to increase relevance.

Faithful Representation: Faithful representation is the second fundamental qualitative characteristic as elaborated in the IASB Executive draft (ED). To faithfully represent economic phenomena that information purports to represent, annual reports must be complete, neutral, and free from material error (IASB, 2008). Economic phenomena represented in the annual report are "economic resources and obligations and the transactions and other events and circumstances that change them" (IASB, 2008). Consistent with prior literature, faithful representation is measured using four items referring to neutrality, completeness, freedom from material error, and verifiability (McMullen, 1996; Beasley, 1996; Cohen *et al.,* 2004; Sloan, 2001; Jonas & Blanchet, 2000; Maines & Wahlen, 2006).

Botosan (2004) argued that it is somehow difficult to measure faithful representation directly by only assessing the annual report since information about the actual economic phenomenon is necessary to assure faithful representation. According to Maines and Wahlen (2006), however, estimates and assumptions that closely correspond to the underlying economic constructs can enhance faithful representation; therefore, we focus on items in the annual report that increase the probability of faithfully represented information. These items do not always directly refer to the US GAAP or IFRS, yet they provide an indirect proxy of faithful representation of financial reporting information prepared following certain accounting standards.

The first proxy refers to financial information disclosure being free from bias. An annual report can never be completely free from bias since economic phenomena presented in annual reports are frequently measured under conditions of uncertainty. Many estimates and assumptions are included in the annual report. Although complete lack of bias cannot be achieved, a certain level of accuracy is necessary for financial reporting information to be decision-useful (IASB, 2008, 2015). Therefore, it is important to examine the argumentation provided for in the different estimates and assumptions made in the annual report (Jonas & Blanchet, 2000). If valid arguments are provided for the assumptions and estimates made, they are likely to represent economic phenomena without bias.

In addition, valid and well-grounded arguments provide that accounting principles used by listed firms increase the likelihood that preparers fully understand the measurement method. This will reduce the possibility of unintentional material errors in their financial report (Jonas & Blanchet, 2000; Maines & Wahlen; 2006). Moreover, when the selected accounting principles are clearly described and well-founded, it increases the probability to reach consensus and to detect misstatements for the user of the financial report as well as for the auditor.

The third sub notion of faithful representation is neutrality which is defined as "the absence of bias intended to attain a predetermined result or to induce a particular behaviour. Neutral information does not colour the image it communicates to influence behaviour in a particular direction" (IASB, 2008, 2015). As Jonas and Blanchet (2000) stated: neutrality is about objectivity and balance. Neutrality refers to the intent of the preparer; the preparer should strive for an objective presentation of events rather than focusing solely on the positive events that occur without mentioning negative events.

The fourth model to measure faithful representation refers to unqualified auditor's report. Various researchers examined the impact of an audit and the auditors' report on the economic value of the firm (Gaeremynck & Willekens, 2003; Kim & Venkatachalam, 2007). These researchers concluded that the auditors' report adds value to financial reporting quality by providing reasonable assurance about the degree to which the annual report represents economic phenomena faithfully. Maines and Wahlen (2006) even argued that an unqualified audit report is a necessary condition to perceive the financial reporting information as reliable or faithfully represented.

Finally, an increasingly important consideration in the annual report related to faithful representation is the corporate governance statement. Corporate governance can be defined as the mechanisms by which business enterprises organised in a limited liability corporate form, are directed and controlled. Several researchers examined the association between financial reporting quality and corporate governance, internal control, earnings manipulations and fraud, and found that poor governance and internal controls reduce the quality of financial reporting (McMullen, 1996; Beasley, 1996). Corporate governance information adds value to capital providers. More specifically, corporate governance information increases the probability of faithfully represented information (Sloan, 2001).

Understandability: The first enhancing qualitative characteristic, understandability, will increase when information is classified, characterized, and presented clearly and concisely. Understandability is referred to when the quality of information enables users to understand their meaning (IASB, 2008). Understandability is measured using five items that emphasize the transparency and clearness of the information presented in annual reports (Jonas & Blanchet, 2000; Iu & Clowes, 2004).

First, classified and characterized information refers to how well-organized the information in the annual report is presented. If the annual report is well-organized it is easier to comprehend where to search for specific information (Jonas & Blanchet, 2000). Furthermore, disclosure information, and the notes to the financial position and income statement, may be valuable in terms of explaining and providing more insight into earnings figures (Beretta & Bozzolan, 2004). Especially narrative explanations enhancing the understandability of information. (IASB, 2008). In addition, the presence

of tabular or graphic formats may improve understandability by clarifying relationships and ensuring conciseness (Jonas & Blanchet, 2000). Moreover, if the preparer of the annual report combines words and sentences that are easy to understand, the reader will be more likely to understand the content as well. If technical jargon is unavoidable, for instance, industry-related jargon; an explanation in a glossary may increase the understandability of the information.

Comparability: A second enhancing qualitative characteristic is comparability, which is the quality of information that enables users to identify similarities in and differences between two sets of economic phenomena (IASB, 2008). In other words, similar situations should be presented the same, while different situations should be presented differently. Comparability is measured using six items that focus on consistency. Four items refer to the consistency in use of the same accounting policies from period to period within a company (Jonas & Blanchet, 2000; Beuselinck & Manigart, 2009; Cole *et al.,* 2007). Two items were used to measure the comparability in a single period across companies (Jonas & Blanchet, 2000; Cole, Branson & Breesch, 2007; Beuselick & Manlgart, 2009).

Comparability includes consistency. Consistency refers to the use of the same accounting policies and procedures, either from period to period within an entity or in a single period across entities (IASB, 2008, 2015). According to the ED, companies should strive for comparability by means of consistency. Jonas and Blanchet (2000) operationalized consistency by referring to coping with change and uncertainty. New information, rules or regulation generally result in companies changing their estimates, judgments, and accounting policies. For instance, if new information is available which encourages a revision of the expected lifetime of a certain asset; this may result in a change of estimate. Also, many EU-listed companies changed from local GAAP to IFRS in 2005, as a result of new rules and legislation. In terms of consistency, these companies must explain how these changes affect previous results. The comparability of earnings figures is important in the evaluation of the firm's performance over time (Cole *et al.,* 2007). If a company changes its estimates, judgments, or accounting policies it may adjust previous years' earnings figures to visualize the impact of the change on previous results.

Additionally, since consistency refers to applying the same accounting procedures every year, this year's figures should be comparable to previous years' figures (IASB, 2008, 2015). When a company provides an overview in which they compare the results of different years, even when no alters in estimates, judgments, or accounting policies occurred, this will improve the comparability of financial reporting information.

Comparability not only indicates the consistency of the use of accounting procedures by a single company, it also refers to comparability between different companies (IASB, 2008). When assessing the comparability of annual reports of different companies, the accounting policies used, the structure of the annual report, and the explanation of transactions and other events are of special importance (Jonas & Blanchet, 2000). Besides, ratios and index numbers can be so informative when comparing companies' performance.

Timeliness: The final enhancing qualitative feature defined in the ED is timeliness. Timeliness denotes having information available to decision-makers before it loses its capacity to influence decisions. (IASB, 2008, 2015). Timeliness refers to the time it takes to reveal the information and is related to decision application in general (IASB, 2008). When examining the quality of information in annual reports, timeliness is measured using the natural logarithm of the number of days between year-end and the signature on the auditors' report after year-end is calculated.

2.3 Empirical Studies

Murray (2010) examined firm social and environmental activities: social reporting, sustainability performance and financial returns of UK major firms. He found that environmental and social matters

are of less concern to markets except in terms of governance and risk. It was equally found that strong public relation motivation exists for reporting socio-environmental reports, which is less significant to enhancing performance. In a related research Balabanis *et al.*, (1998) and Tsoutsoura (2007) using indicators that consist of return on assets and return on capital found a positive association between the firms' sustainability practice and selected indicators of performance.

Similarly, the study of Pled and Iatridis (2012) investigated the CSR quality reporting of US environmentally concern sector. Findings have shown that firms in environmentally concern sector report higher-quality environmental information in their CSR report. Furthermore, there is an inverse relationship on CSR reporting and equity cost reflecting that firms are willing to disclose extraordinary quality CSR report to maintain shareholders' views and successively minimize the cost of capital.

Likewise, Hsiangtsai, *et al.,* (2015) examined the quality of financial reporting and firm social investment, it examined the relationship between CSR and financial reporting quality based on stewardship theory for 100 firms. The results showed that through CSR, the firm can successfully reduce earnings manipulation level and enhance their financial reporting quality. The research provides insights to decision-makers and stakeholders to appreciate the relationship between firm CSR operation and quality of firm financial reporting. It suggested that investors should properly consider the impact of firm CSR activities as they reduce agency costs as stated in Schadewitz and Niskala (2010) that examined the connection between sustainability disclosure and a firm's valuation. The study examined the market value of quoted firms by way of traditional valuation approach and responsibility disclosure using Ohlson model. The research concentrated on responsibility disclosure based on GRI specifically on how the presence of these reports give more explanation concerning the value of the firm. Findings showed that responsibility disclosure forms part of the firm's reporting tools to reduce asymmetry of information between investors and managers. Indicating that GRI sustainability reporting is needed to have precise market valuation model. Besides, Martinez-Ferrero *et al.*, (2013) asserted that corporately responsible firms are less likely to engage in earnings management with negative consequences on their financial reporting quality as they found a complementary relationship between corporate social responsibility and financial reporting quality of 747 firms from 34 European countries. This result was equally found by Timbate and Park (2018).

This contrast with the results by De Villiers and Van Staden, (2011) that contended that firms with non-impressive environmental image report more information to give a public explanation on the way they control environmental concerns. A negative relationship was found between long-term socio-environmental performances with the level of environmental reporting. The conclusion was that firms with non-impressive environmental image need to disclose additional environmental information to reduce the asymmetry of information between management and investors.

In Nigeria, Uwuigbe and Egbide (2012) investigated the firm performance and extent of CSR reporting of Nigerian firms. It shows that financial performance and the audit firm size have a substantial positive impact on the extent of CSR reporting among studied companies. It also noted a negative substantial association between financial leverage and extent of responsibility reporting. It recommended that as part of regulatory function, regulators need to establish policies which will ensure responsible environment activities in Nigerian firms.

Similarly, Emeakponuzo and Udih (2015) analysed the need for environmental reporting has a fledgling issue in emerging nations such as Nigeria. The research equally examined the influence of regulatory measures on environmental disclosure activities and makes a comparison of current operations among companies in various industry of the economy. Findings showed that in modelling a suitable system of environmental, the involvement of staff of plant environmental unit is crucial, they need cooperation with financial experts. It was recommended that professionals in accounting need to receive training on environmental reporting methodology and Financial Reporting Council (FRC) should establish a

standard which will integrate complete concern for physical influence and financial influence of firm on environmental activities.

Besides, Egbunike *et al.,* (2018) examined the level of sustainability accounting practices and disclosure by multinational corporation using survey research design and found a high level of sustainability accounting practice and disclosure. In the same vein, the relationship between sustainability disclosures and market values of firms was investigated by Osisioma and Emeka-Nwokeji (2019) among the selected ninety-three (93) out of one hundred and twenty (120) non-financial firms listed on the Nigeria Stock Exchange. The findings revealed that there is a positive relationship between sustainability disclosures and firm value and thereby serve as evidence of a reduction in agency cost through corporate disclosure of sustainability information. Meanwhile, the extent of the relationship between sustainability information disclosures and financial reporting quality of firms have not been subjected to many empirical studies as little is known about this in Nigeria context. This necessitates this study to contribute to the literature on sustainability and financial reporting quality in emerging economies and assist corporate stakeholders (Managers, shareholders, government agencies, potential investors, employees and financial analysts) to make appropriate economic decisions while relating with the firms.

2.4 Theoretical framework and Research Hypothesis

The study is anchored on agency theory and stakeholder theory. Agency theory states that managers have access to information that is not available to shareholders and this information asymmetry imposes agency costs on the firms. Corporate firms must therefore ensure that they reduce this information asymmetry through corporate disclosures of information. Also, stakeholder theory posits that corporate firms can generate substantive wealth through their relations with their relevant stakeholders instead of the society in general. The goal of the stakeholder theory is to align the goals of the firms with that of the relevant group of stakeholders and this could be achieved through disclosure of sustainable information.

The hypothesis is stated in the null form as stated below:

Ho: There is no significant relationship between sustainability disclosure and financial reporting quality of listed non-financial firms in Nigeria.

3. METHODOLOGY

The study used a longitudinal research design and content analysis. The population for the study comprised of one hundred and twenty-eight non-financial companies quoted on the Nigerian Stock Exchange (NSE) as at December 2016. Purposive sampling technique was employed to select a sample of fifty (50) firms for analysis. Non-financial companies were chosen because their activities impact most on their host community and environment. Companies, whose financial reports were not up to date or were delisted before December 2016 were also excluded. As a result, the final sample set consists of fifty firms over eleven years, 2008 – 2016. Secondary data were sourced from the audited Annual Reports and Corporate websites of the selected Companies quoted on the Nigerian Stock Exchange (NSE) for the study period.

3.1 Financial Reporting Quality Checklist

The overall financial reporting quality checklist which measures the financial reporting quality consist of twenty-one (21) information items which are categorized into four (4) groups, these are faithful representation; relevance; understandability; and comparability. The checklist questions were drafted in line with the requirements of IFRS which are mandatory for Nigerian listed firms. The financial reporting checklist have two likely answers: "Yes", "No". Every reporting item was allotted a value of

'1' where it was reported (Yes) and '0' where it was not reported. The composite disclosure index was the sum of actual reporting as a proportion of total expected disclosure. This study also used word count, prior studies have shown that commonly used measurement methods include word count (Deegan & Rankin, 1996; Campbell *et al.,* 2003), sentence count (Buhr, 1998; Ogden & Clarke 2005; Williams & Pei, 1999) and line count (Garcia-Ayuso & Larrinaga, 2003).

3.2 Model for Sustainability Disclosure and Financial Reporting Quality.

A combination of Clarkson *et al.,* (2007) and Sutantoputra (2009) empirical model were employed in a modified form to achieve this objective. The specific model adopted is stated as follow:

$$FRQit = \beta o + \beta 1BIOit + \beta 2ENPit + \beta 3SEPit + \beta 4SEMit + \beta 5ERDit + \beta 6CELit + Uit$$

Where:
FRQ = Financial reporting quality. This is measured by Faithful Representation, Relevance, Understandability and Comparability.
BIO = Disclosure of firms' impact on biodiversity.
ENP = Disclosure on environmental pollution and control, measured by Disclosure on firms' pollution and control policy.
SEP = Disclosure on socio-environmental policy, measured by Disclosure on firms' socio-environmental policy
SEM = Disclosure on socio-environmental management system and award, measured by Disclosure on socio-environmental management system award.
ERD = Disclosure on environmental research and development
CEL = Disclosure on compliance with environmental law
U = Error term.
t = Time period.
i = Cross section dimension and ranges from 1 to N
βo = Intercept
β1–β6 = Coefficient for independent variables.
A priori expectation: $\beta 1 - \beta 6 > 0$.

4. ANALYSIS OF DATA AND DISCUSSION OF FINDINGS

4.1 Descriptive Statistics for the effect of Sustainability Disclosure on the Financial Reporting Quality within the Study Period

Table 1 shows the summary statistics table of the variables- Financial reporting quality (FRQ), Impact on biodiversity (BIO), Environmental pollution and control (ENP), Socio-environmental policy (SEP), Socio-environmental management system award (SEMS), Environmental research and development (ERD), and Compliance with environmental law (CEL). The mean financial reporting quality (FRQ) across the firms is 14.9733 with a standard deviation of 4.1806. The minimum FRQ figure stays around 0 while the highest value is 20. Impact on biodiversity (BIO) is averaged to be 5.6489 while its deviation from the mean 5.3130. The maximum impact on diversity is 22. The average figure for Socio-environmental policy (EPL) is 13.0489 with its dispersion standing at 8.6793.

The minimum value for EPL is 1 while it Maximum value is 39. The Socio-environmental management system award (SEM) also has its mean value to be 2.9133 while standard deviation and maximum value are in the tune of 1.4202 and 9 respectively. Lastly, mean Environmental research and development (ERD) is 2.5222 with standard deviation equal to 1.8737. The maximum value generated from the variable is 12. The average Compliance with environmental law (CEL) level is 13.5911 while its standard deviation is valued at 11.5451 with maximum value equals 54.

Table 1: Summary Statistics for the Effect of Sustainability Disclosure on Financial Reporting Quality within the Study Period

Variable	Obs	Mean	Std. Dev.	Min	Max
FRQ	450	14.9733	4.1807	3	20
BIO	450	5.6489	5.3130	0	22
SEP	450	13.0489	8.6793	1	39
ENP	450	9.0644	6.4375	1	30
SEM	450	2.9133	1.4202	0	9
ERD	450	2.5222	1.8737	0	12

Source: Author's Compilation, 2019

4.3 Correlation Matrix for the effect of Sustainability Disclosure on the Financial Reporting Quality within the Study Period

Table 2 shows the correlation matrix, a measure of the degree of association and direction of relationship among the variables. It shows the degree of linearity among the variables. Here, the relationship between the dependent variable (FRQ) and each of the other variables shows a positive and low value. This means financial reporting quality moves in the same direction with its explanatory variables. Overall, there is a moderate strength of association among the variable as reflected by moderately low correlation coefficients. This further implies there is no multicollinearity in the data set or among the variables.

Table 2: Correlation Matrix for the effect of Sustainability Disclosure on the Financial Reporting Quality within the Study Period

	FRQ	BIO	SEP	ENP	SEM	ERD	CEL
FRQ	1						
BIO	0.375	1					
SEP	0.318	0.443	1				
ENP	0.347	0.715	0.780	1			
SEM	0.453	0.567	0.582	0.647	1		
ERD	0.555	0.443	0.490	0.504	0.521	1	
CEL	0.274	0.414	0.486	0.593	0.671	0.419	1

Source: Author's Compilation, 2019

4.4 Results of the Assessment of the Quality of Financial Reporting

From the results in Table 3, the percentage of financial reporting quality for 2008 is 63%, 54%, 54% and 31% for relevance, faithful representation, understandability, and comparability (RFU&C) respectively; the percentage of financial reporting quality for 2009 is 63%, 54%, 54% and 32% for RFU&C respectively; the percentage of financial reporting quality for 2010 is 64%, 55%, 55% and 32% for RFU&C respectively; the percentage of financial reporting quality for 2011 is 68%, 58%, 67% and 33% for RFU&C respectively; the percentage of financial reporting quality for 2012 is 68%, 58%, 67% and 33% for RFU&C respectively; the percentage of financial reporting quality for 2013 is 85%, 85%, 67% and 67% for RFU&C respectively; the percentage of financial reporting quality for 2014 is 85%, 85%, 67% and 67% for RFU&C respectively; the percentage of financial reporting quality for 2015 is 85%, 85%, 67% and 67% for RFU&C respectively; and the percentage of financial reporting quality for 2016 is 85%, 85%, 85% and 82% for RFU&C respectively. Table 3 indicates that financial reporting quality is on an increasing trend over the period of the study.

Table 3: Quality of Financial Reporting for the Study Period

	Year	2008		2009		2010		2011		2012		2012		2014		2015		2016	
SN	Description	%	R	%	R	%	R	%	R	%	R	%	R	%	R	%	R	%	R
1	Relevance	63	1	63	1	64	1	68	1	68	1	85	1	85	1	85	1	85	1
2	Faithful Representation	54	2	54	2	55	2	58	3	58	3	85	1	85	1	85	1	85	1
3	Understandability	54	2	54	2	55	2	67	2	67	2	67	2	67	2	67	2	85	1
4	Comparability	31	4	32	4	32	4	33	4	33	4	67	3	67	3	67	3	82	4
	Average	**50**		**51**		**51**		**56**		**56**		**76**		**76**		**76**		**84**	

Source: Author's Compilation, 2019

4.5 Results of Regression for the effect of Sustainability Disclosure on the Financial Reporting Quality within the Study Period

Based on the pre-diagnostic test conducted, heteroscedasticity was detected, thereby necessitating the use of a robust estimate to correct for the defect in the residual caused by heteroscedasticity. From the result in Table 4, BIO has a positive and significant (t=4.57; p<5%) impact on financial reporting quality (FRQ). Essentially, a unit increase in BIO will lead to 0.2072 unit increase in FRQ. In the same vein, SEP is positively but insignificantly (t=0.31; p>5%) affecting FRQ. A unit increase in SEP will lead to 0.0131 unit increase in FRQ. Similarly, SEM is positively and significantly (t=6.15; p<5%) influencing FRQ. It is observed that a unit increase in SEM will result to 1.14 unit increase in FRQ. ENP negatively and significantly (t=-2.93; p<5%) impacting on FRQ. When ENP increases by one-unit FRQ decreases by 0.17 unit. However, ERD moves in the same direction and impact FRQ significantly (t=6.23; p<5%). When ERD increases by a unit it will affect FRQ by an increase of 0.7239 unit. CEL moves in different direction with FRQ, though not significant (t=-0.71; p>5%), a unit increase in CEL will cause 0.0223 decrease in FRQ.

Table 4: Pooled OLS Model Estimate the effect of Sustainability Disclosure on the Financial Reporting Quality within the Study Period

FRQ	Coef.	Std. Error	T	P>t
BIO	0.2072	0.0453	4.57	0.000***
SEP	0.0131	0.0421	0.31	0.755
SEM	1.1492	0.1867	6.15	0.000***
ENP	-0.1659	0.0566	-2.93	0.004***
ERD	0.7239	0.1161	6.23	0.000***
CEL	-0.0223	0.0313	-0.71	0.477
_Cons	10.2764	0.3753	27.38	0.000
No of obs.	450			
Adj. R	0.3746			
F Stat.	39.42			
Prob.	0.000			

Source: Author's Compilation, 2019

4.6 Discussion of Findings

The financial reporting quality for 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016 is 50%, 51%, 51%, 56%, 56%, 76%, 76%, 76% and 84% respectively. It can be deduced that the behaviour of the indices shows a steady improvement over time and all well above average. Hence, the quality of financial reporting of listed non-financial firms in Nigeria is increasing.

The research hypothesis predicts no significant relationship between sustainability information disclosure and financial reporting quality. However, from the regression results in Table 4, the coefficient of the BIO has a positive, significant relationship with FRQ. This shows that firm information disclosure on biodiversity will enhance the quality of financial reporting. This is in line with findings of Pled and Iatridis (2012). The coefficient of the SEP has a positive but non-significant relationship with FRQ. This shows that firm disclosure on socio-environmental policy is less significant in explaining the quality of financial reporting but positively affect FRQ. This finding as reflected is consistent with the finding of Plumlee *et al.,* (2010) and Hsiangtsai *et al.,* (2015). Nonetheless, it not in line with findings of Ibanichuka and James (2014a, 2014b).

The SEM has a positive and significant relationship with FRQ. This shows that firm disclosure on socio-environmental management system could be used in explaining FRQ. This finding as reflected is consistent with the findings of Emeakponuzo and Udih (2015) and Gamble and Hsu (1995). ENP has a negative and significant relationship with FRQ. This shows that firm disclosure on environmental pollution and control negatively affect FRQ, meanwhile, the effect as reflected is significant. This finding as reflected is consistent with findings of Lars and Henrik (2005) and Ahmad (2014). ERD has a positive and significant relationship with FRQ. This shows that firm disclosure on ERD could enhance FRQ.

The coefficient of the CEL has negative, non-significant relationship with FRQ. This shows that firm disclosure on compliance with environmental law moves in the opposite direction with FRQ, hence, it is less significant in explaining FRQ. This finding as reflected contradicts the findings provided by Emeakponuzo and Udih (2015) and Deegan (2002). These findings indicate a significant relationship between sustainability disclosure and financial reporting quality. Hence, we reject the null hypothesis and accept the alternate hypothesis.

5. CONCLUSION AND RECOMMENDATIONS

It was found that the quality of financial reporting is increasing among Nigerian firms. This may be the result of the demand of stakeholders and regulatory pressures on the listed firms to disclose more financial and non-financial information to the public. It was also discovered that sustainability information disclosure on biodiversity, socio-environmental policy, socio-environmental management system award and environmental research and development were the four major factors that enhance financial reporting quality of listed firms in Nigeria. Listed non-financial firms that will enhance financial reporting quality must consciously develop internal policy to fully disclose non-financial information on biodiversity, socio-environmental policy, socio-environmental management system award and environmental research and development. This will reduce agency costs and assist the investors in making resources allocation decisions in favour of the firms.

It is therefore recommended that Financial Reporting Council of Nigeria (FRC), Securities and Exchange Commission (SEC) and Nigerian Stock Exchange (NSE) should form a common front for monitoring compliance with Sustainability Reporting Guidelines and ensure that non-financial quoted firms disclose information on biodiversity, socio-environmental policy, socio-environmental management system award and environmental research and development to enhance the financial reporting quality of the firms. Also, they should engage in continuous education of the Corporate Stakeholders on use of the Social, Economic and Environmental information in the Annual Reports.

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Appendix

Unit Root Test for the effect of Sustainability Disclosure on the Financial Reporting Quality within the Study Period

Variable	Method	Statistic	Prob.	Remark
FRQ	Levin, lin and chu	-14.8276	0.0000	I0
	Harris-tzavalis	49.817	0.000	I0
	Fisher-type ADF	40.2960	0.0019	I0
	Fisher-type PP	395.8707	0.0000	I0
	Hadri	0.3424	0.366	I0
BIO	Levin, lin and chu	-9.2942	0.0000	I0
	Breitung	-13.1527	0.0000	I0
	Harris-tzavalis	0.1107	0.0000	I0
	Fisher-type ADF	40.2960	0.0019	I0
	Fisher-type PP	333.2617	0.000	I0
ENP	Levin, lin and chu	-3.7508	0.0001	I0
	Breitung	-10.3844	0.0000	I0
	Im-pesaran shin	-9.3035	0.0000	I0
	Fisher-type ADF	-1.3901	0.0822	I0
	Fisher-type PP	427.5440	0.0000	I0
	Hadri	8.1565	0.0000	I1
SEP	Levin, lin and chu	-7.6056	0.0011	I0
	Harris-tzavalis	0.4491	0.000	I0
	Fisher-type ADF	97.9593	0.000	I0
	Fisher-type PP	182.4119	0.0000	I0
	Hadri	20.1361	0.000	I1

SEM	Levin, lin and chu	-6.53	0.0000	I0
	Breitung	-7.6188	0.0000	I0
	Harris-tzavalis	0.3787	0.0000	I0
	Fisher-type ADF	114.1146	0.000	I0
	Fisher-type PP	183.5428	0.000	I0
	Im-pesaran shin	-4.6619	0.000	I0
ERD	Levin, lin and chu	-6.8674	0.000	I0
	Breitung	-10.4261	0.0000	I0
	Im-pesaran shin	-5.1391	0.0000	I0
	Fisher-type ADF	49.6744	0.0822	I0
	Fisher-type PP	219.6086	0.0000	I0
	Harris-tzavalis	0.2569	0.0000	I0
CEL	Levin, lin and chu	-9.8539	0.000	I0
	Breitung	-2.7977	0.0026	I0
	Im-pesaran shin	-4.1026	0.0000	I0
	Fisher-type ADF	32.1200	0.0213	I0
	Fisher-type PP	124.8978	0.0000	I0