Universal Journal of Accounting and Finance 10(4): 811-819, 2022 http://www.hrpub.org
DOI: 10.13189/ujaf.2022.100403

Sustainability and Financial Reporting Quality for Listed Manufacturing Companies in Nigeria: The Legitimacy Theory Perspective

Rufus Ishola Akintoye, Shamusideen Kehinde Kassim*

Department of Accounting, School of Management Sciences, Babcock University, Ilishan-Remo, Nigeria

Received December 14, 2021; Revised May 10, 2022; Accepted May 24, 2022

Cite This Paper in the following Citation Styles

***(a)**: [1] Rufus Ishola Akintoye, Shamusideen Kehinde Kassim , "Sustainability and Financial Reporting Quality for Listed Manufacturing Companies in Nigeria: The Legitimacy Theory Perspective," Universal Journal of Accounting and Finance, Vol. 10, No. 4, pp. 811 - 819, 2022. DOI: 10.13189/ujaf.2022.100403.*

***(b)**: Rufus Ishola Akintoye, Shamusideen Kehinde Kassim (2022). Sustainability and Financial Reporting Quality for Listed Manufacturing Companies in Nigeria: The Legitimacy Theory Perspective. Universal Journal of Accounting and Finance, 10(4), 811 - 819. DOI: 10.13189/ujaf.2022.100403.*

Copyright©2022 by authors, all rights reserved. Authors agree that this article remains permanently open access under the terms of the Creative Commons Attribution License 4.0 International License

Abstract The universal declaration of a healthy and sustainable environment was adopted by the United Nations (UN) Human Rights Council in 2021 as a fundamental human right; The U.S. Security Exchange Commission in March, 2022 and the European Union's directives in 2014 strengthen the need for all reporting entities to include sustainability reports in their annual reports, for the purpose of improving the quality of financial reporting. Our study examined how sustainability reporting affects the quality of financial reporting from the perspective of legitimacy theory, within the manufacturing sectors in Nigeria as a result of their environmental impact amongst other sectors. The published annual reports of 16 listed manufacturing companies, on the Nigerian Stock Exchange Market, were observed between the financial reporting periods of 2011 and 2020. Sustainability indices were proxied using both the Environmental Disclosure index and Social Disclosure index, while the financial reporting quality was measured using the Accrued earnings management, following the Jones (1991) Model. Using a panel regression analysis, the study applied the Variance inflation factor to test for multicollinearity among the predictors and also employed the fixed effect estimator, as suggested by our Hausman test result, in analyzing the observed data. Our findings revealed that environmental disclosures do not impair the quality of their financial reports. Such impracticability could have resulted from the use of strict environmental regulations by the government and its agencies. However, opportunistic managers could use social disclosure information to dilute the quality of financial reporting. We also found that the profitability performance of manufacturing firm is highly susceptible to impairing the quality of financial reports. We suggest that auditors should be provided with a full-fledge understanding of sustainability reporting to unveil managements' practice of earnings management; the financial reporting council should mandatorily impose the disclosure of sustainability information either as a stand-alone report or as part of the annual reports to allow stakeholders to make relevant economic decisions about the firm; and adequate internal control systems should be in place and should be assessed on yearly basis, as firms continue to operate.

Keywords Sustainability Reporting, Environmental Disclosure Index, Social Disclosure Index, Financial Reporting Quality, Legitimacy Theory, Hausman Test, Variance Inflation Factor, Global Reporting Initiative

1. Introduction

The conventional financial report discloses both the financial and economic position of the company, which mostly forms a basis for appraising the performance of the

firms by its stakeholders. Professor Ishola Akintoye, in his 28th inaugural lecture titled "Accounting: A Mismanaged Concept Requiring Urgent Re-definition" delivered at the Babcock University, Ilishan-Remo, attested that the practice of the current financial reporting system is not adequate to evaluate the performance of many corporate entities, especially firms in the primary (mining) and secondary (manufacturing) industries. These inadequacies support the need for an extensive disclosure of non-financial information to enhance the quality of financial reporting [1].

The non-financial reporting requires management, to disclose events other than the usual financial transactions. Paragraph six (6) of the European Parliament directives 2014/95/EU highlighted that reporting entities should prepare a non-financial statement to include information on matters relating to the environment, society and employees, and respect for human rights to enhance comparability of the disclosed non-financial information across countries in the European Union [2].

Following the press release of the U.S. Securities and Exchange Commission (SEC) in March 2022, it was proposed that all U.S. SEC registrants should disclose information relating to climate-related risks, which have a material impact on their operating, financial and profitability performance, in the notes to the audited financial statements. The SEC Chairman, Gary Gensler, supported this proposal and added that the adoption of the disclosure of the non-financial information provides investors with information relevant for making investment decisions, and it would provide consistent and clear reporting obligations for issuers [3].

Krivacic [4] expects that the annual report covers information relating to the social and environmental performance of firms in their respective industries, either in an integrated or stand-alone report called Sustainability Report. The Global Reporting Initiative (GRI) reported that between 2000 and 2010, over 1,973 firms in various countries of the world (the United Kingdom, Australia, France, China, Netherlands, Italy, Greece, Norway, Austria, Portugal, Germany, Sweden, Canada, Malaysia, Denmark, Indonesia) have been mandated to disclose sustainability information in line with the GRI standards, alongside with the conventional financial report [5].

The environmental health report produced by the World Health Organization (WHO) in 2016 revealed that about 26% of children's death below the age of five as well as 23% of global deaths caused by cancer, ischaemic, and heart disease were traced to some environmental factors like combustion emissions, process emission or fugitive emission, amongst others [6]. Process emission arising from the chemical conversion of raw materials, which releases carbon dioxide into the atmosphere, originates from the manufacturing sectors. As a matter of fact, unlike the service sector, manufacturing has a high environmental impact [7, 8] as various regulations are being issued in several countries to control the level of chemical discharge from these sectors. Carbon regulations have created an additional role for both the management accountant and managers, to apply algorithms in allocating resources, which recognize complex climate change issues [9].

Moreover, a healthy and sustainable environment has been universally declared as fundamental human right on October 8th, 2021, by the United Nations (UN) Human Rights Council. This declaration also substantiates the need for firms' disclosure of sustainability information to complement the information provided in the annual report, as it gives stakeholders a reasonable level of comfort that available resources are not used to jeopardize future needs.

Irrespective of the form of disclosure, either voluntary or mandatory, ethical principles expect that such disclosure should be done with integrity and transparency. Lightstone & Driscoll [10] accentuated the observation in previous studies that, enhancing legitimacy requires management to keep investors (inclusive of shareholders) informed about the actual performance (in terms of financial as well as sustainability) of the company, whether good or bad. He further identified how managers employ various approaches to place their interests over the shareholders when making disclosures. It was also suggested that symbolic and opportunistic managers may intentionally conceal firms' performance when they appear negative.

Some social activities (scholarship programs, sponsorship, and provision of social amenities) could also be used as camouflage to conceal the effect(s) of managed earnings [11] While sustainability report could be maladjusted to meet the statutory requirements to avoid sanctions from both the national and international regulatory agencies (Federal Ministry of Water Resources and National Environmental Standards Regulations and Enforcement Agency, Greenpeace, Environmental Defense Fund, and Center for Environmental Research and Conservation), the financial performance indicators might also be misrepresented by management in a discretionary manner, to meet both the annual specified financial target and statutory regulations.

Practically, earnings management has been proved as an unethical behaviour that gives opportunistic managers chances of diluting the quality of financial information to attract investors; altering firms' value (in terms of total assets, market price per share) as well as its market capitalization on the Security Exchange Market; overstating its performance and position, to achieve competitive advantage within the industry over rival firms; and understating profits to evade tax liabilities.

To address this menace, the existence of a continuous discourse emanating from the side of practitioners, investors, employees, shareholders, and the public, with respect to the need for management to improve financial reporting, therefore necessitates the need to examine the impacts of the disclosure of sustainability report on the quality of financial reporting from the perspective of legitimacy theory.

2. Review of Literature

The Legitimacy Theory Perspective

The nexus between sustainability and Financial Reporting Quality (FRQ) from the perspective of legitimacy theory, provides an effective mechanism for understanding social and environmental disclosure [16]. Legitimacy itself forms a significant portion of organizations' intangible resources, as it implies management's conformity with relevant laws and regulations, which must be carefully complied with, to protect the image of the organization. Dewiyanti, [17] sees legitimacy as a psychological state of partiality of some groups of stakeholders, who are sensitive to the events surrounding an entity's environment.

The company's legitimacy status depends on management's ability to provide reasonable assurance that their primary activities do not impair the image of the firm both internally and externally [11]. For companies to maintain their legitimacy status, the need for management, to disclose sustainable information about the firm, with the use of annual reports as a legitimacy device was identified [13].

Following the argument of Rahmawati, et al., [8] Dewiyanti, [7] provided a link between the legitimacy theory, stakeholder theory and the political economy theory. They identified that the perspectives of both stakeholder theory and legitimacy theory are within the framework of the political economy theory.

Where Stakeholder theory identifies the gap between ownership and management and expects management to act on behalf of the stakeholders depending on the power and interest of each stakeholder group, legitimacy theory, therefore, conceptualizes the interaction between the firm or management's performance (operations and profitability) and the society in which it exists [17]

The Legitimacy theory assigns management the responsibility of providing fair disclosure of social, economic, and environmental information about the firm to various stakeholders group [15]. The theory originated from the social contract theory, explaining that organizations, irrespective of their complexities, must interact with their immediate environment for survival [19]. To effectively manage legitimacy as a resource, firms voluntarily disclose this information in their annual report, to capture the attention of interested stakeholders, which is expected to be done ethically.

Considering the heritage held by management, Burlea et al. [20] believed that legitimacy theory should connect reporting responsibilities with ethical values. The execution of legitimacy activities requires the application of ethical principles (relating to conflict of interest, and the integrity of reporting), which consequently impacts firms' reporting. Firms' inability to fairly represent their legitimacy activities, through financial reporting, may threaten their ethical values and consequently lead to a legitimacy gap.

The legitimacy gap often arises when management is not sensitive to the effects of the company's activities in the society where it exists, as well as the community expectations with respect to the generation of maximum profit. The legitimacy gap is minimized through the provision of social and environmental responsibilities as well as striking a compatible balance between company operations and the expectations of the society where manufacturing activities take place [17]

Mart ńez-Ferrero et al. [21] express how legitimacy theory has been used to justify the disclosure of sustainability information relating to various environmental and social issues. The GRI Foundation described SR, as a practice of reporting economic, environmental, and social information to the general public, towards the attainment of the Sustainable Development Goals (SDGs) (GRI 2016).

Eisinga [22] noted that while disclosing reports about sustainability performance, several concerns continue to hold about the integrity of the sustainable information, as well as the financial performance. He further explained how the manager uses their discretionary power to impair the quality of financial reports, in favour of either the shareholders or their interests, at the expense of other stakeholder groups, thereby damaging the duty of trust. Martinez-Ferrero et al. [21] suggested that the disclosure of sustainable information could negatively affect the quality of financial reporting.

Empirical Reviews

Owolabi et al. [12] analyzed how environmental accounting impact the FRQ, for 40 Nigerian listed manufacturing firms, employed the identification and inclusion of waste costs, emissions control costs, prevention, and other environmental management costs, and discovered that environmental accounting measures, both directly and significantly impact the quality of financial reporting. Adepoju [13] also investigated how disclosures of environmental reports improve FRQ for some Nigerian manufacturing companies, using a panel data regression analysis. His findings outlined that among other variables employed in the study, only environmental disclosure significantly influences the FRQ.

In Germany, sustainability quality was evaluated using the approved guidelines of the GRI, as a benchmark for assessing the suitability of the guidelines while examining the practice of voluntary SR on reporting quality [14]. After analyzing about 26 annual reports of listed companies with correlational analysis, a weak positive relationship was identified between SR and the financial reporting quality and raised the need for mandatory disclosure of sustainability reports as well as its standards. After examining the effects of mandatory reporting on corporate sustainability, it was realized that the adoption of mandatory SR motivates companies to implement a more

ethical practice that reduces corruption and increases the credibility of management [5].

Uwalomwa et al. [15] employed the panel regression technique to analyze a two-way directional relationship between SR and the performance of some Nigeria listed Deposit Money Banks (DMBs), between 2014 and 2016. The study used the sustainability disclosure index and market price per share, to explain disclosures of sustainability information and their performance respectively. The empirical findings from the legitimacy theory perspectives confirmed the existence of a negative two-way directional relationship between SR and the financial performance of the Nigeria listed Deposit Money Banks (DMB). Further investigation reports that revenue generation positively influences the reporting of sustainability. Krivacic [4] in his analysis of the quality of SR for companies evidenced that sustainability reports allow companies in Croatia, to consider efficiency in addressing sustainability issues. They viewed sustainability reporting as a challenge that requires certain organizational resources for monitoring both environmental and social aspects of business, data analysis, and the production of reports.

Hypotheses

H_{01}: The inclusion of sustainability reporting in manufacturing industries does not enhance the FRQ.

H_{02}: Expansion in the operation of manufacturing firms does not improve FRQ.

3. Methodology

We conducted a panel regression analysis to investigate how accounting for sustainability cum profitability performance impacts the quality of financial reports of manufacturing firms in Nigeria.

Data Samples and Sources

16 listed Nigerian manufacturing firms were sampled between 2011 and 2020, making a total of 160 observations. Data were sourced from the Machame Ratios (machameratios.company.site) and were further manipulated to suit the study aims and objectives.

The choice of the manufacturing industry across industries within the economy, was a result of social and environmental impact resulting from the inherent nature of their operations, as they tend to discharge pollution into the environment either by air or sewage disposal. The list of observed firms includes Flour Mill Nigeria (FMN), Cadbury, Champion Breweries, Dangote Sugar, Guinness Nigeria, Honeywell Flour Mill Nigeria (FMN), International Breweries, Mcnichols Consolidated, Nascon Allied, Nestle Nigeria, Nigeria Breweries, Nigerian Enamelware, Nigerian Northern Flour Mill, PZ Cussons, Unilever Nigeria, and Vitafoam Nigeria).

Specification and Definition of Models

The panel regression model is specified thus [23]:

$$FRQ_t = f(EDI, SDI, NIM) \quad (1)$$

$$FRQ_t = \alpha_0 + \alpha_1 EDI + \alpha_2 SDI + \alpha_3 NIM + \mu \quad (2)$$

Note:

$\alpha_1 - \alpha_4$ *are the coefficient while* α_0 *is the intercept in equation* (2).

μ = *denotes the residuals of variables affecting FRQ, which were not included n the model*

Dependent variable

Financial Reporting Quality (FRQ): Empirical findings revealed that previous literature employed the use of Earnings Management (EM) to proxy FRQ. EM relates to both real EM and accrual-based EM. Where real EM explains how the execution of real business transactions is being altered by management, accrual-based EM aims to conceal a true and fair view of business performance by altering accounting estimates within the Financial Reporting Frameworks and the Generally Accepted Accounting Principles (GAAP).

We adopted the residual (ε) of the Jones model (1991) for the accrual-based earnings management, which was identified as one of the most efficient models used in estimating and detecting EM in emerging economies [24].

$$\frac{TA_t}{As_{t-1}} = \beta_0 \frac{TA_t}{As_{t-1}} + \beta_1 \frac{\Delta REV_t}{As_{t-1}} + \beta_2 \frac{PPE_t}{As_{t-1}} + \varepsilon_t \quad (3)$$

$TA_t -$ Total Accrual in the current period

$As_{t-1} -$ Total Assets in the previous period

$\Delta REV_t -$ Annual changes in revenue during the current period

$PPE_t -$ Gross property, plant and equipment in current year

$\varepsilon_t -$ The residual or error term, explaining accrued earnings management

Explanatory Variables

Environmental Disclosure Index (EDI): This index measures the volume of environmental information disclosed as evident in the annual report of the manufacturing firms. The index explains the world's best practices on environmental reporting according to the GRI, the SR indicators, which were computed as the average value of the dummy variables of disclosures relating to disclosures for materials (EN1-EN2), energy (EN3-EN7), water (EN8-EN10), biodiversity (EN11-EN15), emission, effluents and waste (EN16-EN25), product and services (EN26-EN27), compliance (EN28), transport (EN29), and the overall environmental protection expenditures and investments (EN30) [25].

Social Disclosure Index (SDI): This index forms a dummy variable which proxies the disclosure of social information in yearly financial reports for 16 manufacturing firms. This variable explains firms' compliance and non-compliance to disclosures of the Corporate Social Responsibilities (CSR).

Control Variables

Profitability: Net Income Margin (NIM) was employed, as a measure of profitability performance. NIM was computed by dividing the net interest (also known as the Profit before Interest and Tax) by the Total Revenue on yearly basis. This study used NIM to examine how the profitability of firms could be used to impact the quality of financial reports of quoted manufacturing firms in Nigeria. Unlike ROA and ROE which have frequently been employed by extant pieces of literature in measuring firms' profitability performance [11]. This study however employs the use of the NIM because it served as the most appropriate metric tool for measuring profitability performance.

Techniques for Estimation

A panel unit root test was used to confirm the stationary of variables. This necessitated the need to verify that there is an absence of the problem of multicollinearity with the corresponding probability. Thereafter, the degree of association cum the nature of the relationship between the observed variables were tested. The residual of the pooled regression was plotted on a graph, to test for the presence of heteroscedasticity. This test confirms whether the values of independent variables affect the variance of errors from the pooled panel results.

The Variance Inflation Factor (VIF) is used to test for multicollinearity as it quantifies the extent to which the variance is inflated among the predictor variables in the model. Multicollinearity exists where the standard errors and variances of the estimated coefficients are inflated, and it exists for each of the predictors in a multiple regression model. The VIF quantifies the extent to which the variance of a regression coefficient is inflated.

The variance inflation factor predictor is estimated below:

$$VIF_j = \frac{1}{1 - R_j^2}$$

Where: VIF_j is the Variance Inflation Factor for each predictor, and R_j^2 is the estimated R-squared for each predictor variable.

The general rule of thumb is that VIFs exceeding 4 necessitates additional investigation, while VIFs exceeding 10 are signs of serious multicollinearity requiring correction [26].

Following the pre-test estimation, is the estimation of the panel model, this study covers descriptive statistics, fixed and random effects, where the result from the Hausman test will be used to evaluate the most appropriate effects. The hypothesis of the Hausman test is applied in this respect and it is subject to the probability value.

4. Data Analysis and Result Discussion

Averagely, the Statistical Distribution Table below explains that all variables show positive returns except for the quality of the FRQ, which produced negative returns. The Net Income Margin (NIM) produced a positive average, which implies that it improves the transparent disclosure of financial reporting.

The maximum and minimum values for variables explaining sustainability (Environmental Disclosure Index (EDI) and Social Disclosure Index (SDI)) reflect that some manufacturing companies fully met the disclosure requirement about their Social Responsibilities since both dummy variables (EDI and SDI) were pegged at 0 (non-compliance) and 1 (compliance). However, none of these firms met the environmental disclosure requirements as stated by the GRI. While the standard deviation explains the dispersion or proximity of the variables from the mean value. The Jarque-Bera test summarizes that the observed variables are not normally distributed. This stems from the fact that the probability values, explaining this test is less than 5 percent.

Panel A Statistical Distribution Table

Obs. Var.	**FRQ**	**EDI**	**SDI**	**NIM**
Mean	-0.0476	0.1102	0.7300	10.1033
Median	-0.0497	0.0000	0.8000	9.8356
Maximum	0.8284	0.7500	1.0000	37.3408
Minimum	-0.5847	0.0000	0.0000	-69.8750
Std. Dev.	0.1673	0.2187	0.2520	13.6735
Jarque-bera	188.5578	162.1089	78.4397	1245.2850
(Probability)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Observations	160	160	160	160

Multicollinearity is a statistical problem that suggests the instability of the regression coefficient, and it is suspected that the correlation between each explanatory variable falls below 0.8 [27]. Using the VIFs, the absence of the problem of multicollinearity is confirmed where the VIFs for each predictor must not be inflated above 4, implying that the regression coefficient is relatively stable [26].

Adepoju [9] identified that the correlation between the predictor variables should be of low or moderate degree. Following the general rule of thumb for VIFs, Panel B confirms the absence of the problem of multicollinearity as the estimated value of VIF for all predictor variables is approximately 1. The estimate for the VIF in panel B below is approximately 1. This, therefore. implies the absence of correlation among the predictor variables is not correlated.

Panel B Multicollinearity Test-Variance Inflation Factor

Predictor Variables	EDI	SDI	NIM
R-squared	0.1112	0.1013	0.0214
Variance Inflation Factor	1.1252	1.1127	1.0219

Source: Author's computation

Our result further identifies that sustainability performance (proxy by Environmental Disclosure Index and Social Disclosure Index) negatively affects the quality of financial reporting, but the effect of firms' profitability performance appears to have a direct but insignificant effect on the FRQ. Profitability (NIM) directly and significantly contributes towards impacting the FRQ, firms' disclosure of environmental and social information. This makes it one of the most vulnerable variables, following EDI and SDI, capable of inflicting on the quality of firms' financial reports.

Hausman Test

The model for the Hausman test is expressed below [28]:

$$H = (\beta_{RE} - \beta_{FE})'(\Sigma_{FE} - \Sigma_{RE})^{-1}(\beta_{RE} - \beta_{FE})$$

Where: RE = Random-Effect; and FE = Fixed-Effect

The Hausman statistic was distributed asymptotically as chi-square with a corresponding K degrees of freedom (d.f) under the null hypothesis that the random effects estimator is appropriate.

Where the probability value of the cross-section random test summary is less than five percent, the null hypothesis (that the FE estimator is not suitable) should be rejected, implying that statistical evidence is not sufficient to reject the alternative hypothesis (that the FE estimator is suitable), and vice-versa.

Panel C Cross-Section Random Hausman Test

Test-Summary	Chi-Square. Stat	Chi-Square (d.f).	Prob.
Cross-section random	3.7104	3	0.2945

Source: Author's Compilation from Eviews

Hence, it can be concluded that the FE method is more suitable for this study.

The Hausman Test result above (Panel C) presents an estimate of the Cross-Section Random test with an associated Chi-square of 3.7104, which is more than its probability, (0.2945) with three degrees of freedom [29]. In the same vein, the probability of the cross-section random test of 29.45 percent exceeds 5 percent, this, therefore, justifies the rejection of the null hypothesis. Hence, the FE estimator is estimated as the Hausman test considers it more appropriate in this study.

Panel D Fixed-Effect Regression Results

Dependent Variable: FRQ

Variables	EDI	SDI	NIM	Intercept
Coefficient	-0.1564	0.1992	0.0024	-0.1996
Prob.	(0.1940)	(0.1022)	(0.0582)	(0.0237)

Note: This result was derived and compiled from E-views; hence, that associated probability values are enclosed in the bracket.

We, therefore, estimate the Fixed-Effect Regression (as

shown in Panel D above), which depicts that SDI has an insignificant positive effect on the quality of financial reporting, except for NIM with a significant impact. However, the EDI shows a negative and insignificant effect on the FRQ.

Where the SDI and EDI measure the company's ability to meet the sustainability disclosure requirements, NIM explains the profitability performance of firms.

Therefore, a percent increase in the SDI and NIM of manufacturing companies in Nigeria, positively, but insignificantly improves the quality of financial reporting, by about 0.1564 percent and 0.0025 percent respectively to the stakeholders. However, the estimate above shows that the disclosure of environmental information in the Nigerian manufacturing sector negatively impacts the quality of financial reporting, but in an insignificant way. This follows the findings of Martinez-Ferrero et al. [15]. This appears unrealistic but could become practicable depending on the level of management's involvement and adherence to legitimacy.

Discussion of Findings and Hypothesis

With respect to the choice of Fixed-Effect estimate as suggested by the Hausman test, we employed the environmental disclosure index and social disclosure index according to the Global Reporting Initiatives (GRI) standards for manufacturing companies, to explain sustainability disclosures, while the NIM of these firms was used to determine the extent at which management manages its earnings. Our findings revealed that it is impracticable for firms to impair the quality of financial reports under the umbrella of environmental regulation, although, this could be the case in terms of social responsibilities. This could result from the fact that the environment of manufacturing industries is strictly regulated by the government because of the negative externalities it has on the environment, unlike social responsibilities, which are not as regulated as that of their environment. This study identified the possibilities of managers using firms' profitability performance (using the Net Income Margin) to affect the quality of financial reports and discovered that it is highly susceptible to manipulating their financial reports.

We empirically tested two hypotheses. First, "The inclusion of sustainability reporting in manufacturing industries does not enhance the FRQ". While considering legitimacy, our results and findings invalidated the first hypothesis and therefore inferred that the inclusion of sustainability reporting in annual reports for manufacturing industries positively and negatively affects the FRQ [15]. The second hypothesis, that 'expansion in the operation of manufacturing firms does not improve on FRQ" is not to be accepted, based on our findings. Our findings revealed that as a firm continues to grow, its level of operations increases and hence becomes more complex. Opportunistic managers could take advantage of these complexities to manipulate their earnings, thereby despairing the truth and fairness of the financial reports, especially where internal control systems are absent.

5. Conclusions and Recommendations

Increasing demand for social and environmental information by various stakeholders (regulatory authorities, investors, employees, and shareholders) towards enhancing sustainability reporting as well as a fair disclosure of annual financial reports, raises the need to investigate the nexus between sustainability and FRQ. We employed panel regression analysis to investigate the nexus between sustainability and FRQ from a legitimacy perspective in 16 Nigerian listed manufacturing firms' markets from 2011 to 2020.

Some disclosure (voluntary or mandatory) could produce a conflict of interest and give room for opportunistic managers to conceal relevant information which may impair the quality of financial reports within the annual report, from the perspectives of both legitimacy and stakeholder theory. The intention of impairing the quality of financial statements to provide sustainability information according to the GRI's International Guidelines was tested.

We applied the Jones (1991) model to measure the level at which management engages in earnings management which may impair the quality of financial reporting within the manufacturing industry.

We, therefore, suggest that:

- auditors should be provided with a full-fledge understanding of sustainability reporting to unveil managements' involvement in earnings management;
- government institute regulations which mandatorily ensure the inclusion of sustainability reports either as a stand-alone report or be added to the annual reports to allow stakeholders to make reasonable decisions about the firm; and
- adequate internal control systems should be in place and should be assessed on yearly basis, as firms expand their operations.

This study could not capture the entirety of companies in the Nigerian manufacturing sector due to the non-availability of the database. Further studies can consider investigating the disclosure of sustainability information in sectors other than the manufacturing sector, like the mining sector.

REFERENCES

[1] Lawal I., "Don advocates inclusion of sustainable accounting in varsity curriculum," (2019). https://guardian.ng/features/education/don-advocates-inclu

sion-of-sustainable-accounting-in-varsity-curriculum/ (accessed December 4, 2021).

[2] The EU Directives. Directive 2014/95/EU of the European parliament and of the council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups. Retrieved from Official Journal of the European Union: October, 2014, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095&from=EN

[3] The U.S. Securities and Exchange Commission, SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors. Retrieved from U.S. Securities and Exchange Commission_Press Release, March 2022. https://www.sec.gov/news/press-release/2022-46.

[4] Krivacic, D. "Sustainability Reporting Quality: The Analysis of Companies in Croatia," Journal of Accounting and Management, vol. 7, no. 1, pp. 1-14, 2017. https://hrcak.srce.hr/file/287088 (accessed December 3, 2021).

[5] Ioannou I. & Serafeim G., "The Consequences of Mandatory Corporate Sustainability Reporting," Havard Business School Research Working Paper pp. 11 -100, 2017. http://ssrn.com/abstract=1799589 (accessed December 4, 2021).

[6] Prüss-Ustün, A. Wolf, J. Corvalán, C. Bos R & Neira M., "Preventing Disease through Healthy Environments: A Global Assessment of the Burden of Disease from Environmental Risks," WHO Library Cataloguing-in-Publication Data, pp. 1-176, 2016. https://www.who.int/publications/i/item/9789241565196 (accessed December 5, 2021).

[7] Brammer S., Pavelin S., "Factors influencing the quality of corporate environmental disclosure." Business Strategy and the Environment, pp. 1-17, 2005.

[8] Bowen, F. E. "Environmental visibility: a trigger of green organizational responsiveness?" Business Strategy and the Environment, vol. 9, no. 2, pp. 92-107, 2000.

[9] Cadez, S. & Guilding, C., "Examining Distinct Carbon Cost Structures and Climate Change Abatement Strategies in CO2 Polluting Firms," Accounting, Auditing & Accountability Journal, Vol. 30, No. 5, pp. 1041 – 1064, 2017. http://doi: 10.1108/AAAJ-03-2015-2009.

[10] Lightstone K., Driscoll C., "Disclosing Elements of Disclosure: A Test of Legitimacy Theory and Company Ethics," Canadian Journal of Administrative Sciences" vol. 25, no. 1, pp. 7-21, 2018. DOI: 10.1002/CJAS.50.

[11] João A. S., Leonardo F., José A B., Cleber B., "Financial Reporting Quality and Sustainability Information Disclosure in Brazil," Brazilian Business Review, pp. 555-575, 2019. DOI.org/10.15728/bbr.2019.16.6.2

[12] Owolabi, S. A., Solarin, S. A., "Environmental Accounting and Corporate Reporting Quality of Nigerian Manufacturing Companies," International Journal of Science and Research, vol. 9, no. 9, pp. 1-7, 2020. http://doi: 10.21275/SR20618184118.

[13] Adepoju J. A., "Effect of environmental disclosures on financial reporting quality of manufacturing companies in Nigeria," International Journal of Social Sciences and Management Review, vol. 2, no. 4, pp. 1-16, 2019. https://ijssmr.org/uploads/ijssmr02_50.pdf. (accessed December 11, 2021).

[14] Quick R., "Voluntary sustainability reporting practices in Germany: a study on reporting quality," Contabilidade Gestao, no. 5, pp. 7-35, 2008. https://www.semanticscholar.org/paper/Voluntary-Sustainability-Reporting-Practices-in-A-Quick/bd2b702e7cc55e6a7289d7fbcb1562ae8fe51e27 (accessed December 11, 2021).

[15] Uwuigbe, U., Teddy, O., Uwuigbe, O. R., Emmanuel, O., Asiriuwa, O., Eyitomi, G. A., & Taiwo, O. S., "Sustainability reporting and firm performance: A bi-directional approach," *Academy of Strategic Management Journal*, vol. *17*, issue 3, pp.1-16, 2018. https://www.researchgate.net/publication/328651991_Sustainability_reporting_and_firm_performance_A_bi-directional_approach (accessed December 10, 2021).

[16] Tilling M. V., "Refinement to Legitimacy Theory in Social and Environment Accounting," Commerce Research Papers Series No.04–6, 2004. https://www.academia.edu/25301128/Refinements_to_Legitimacy_Theory_in_Social_and_Environmental_Accounting.

[17] Dewiyanti, S., "Legitimacy Theory and Its Relationship to CSR." Retrieved from Accounting Binus, 2021. https://accounting.binus.ac.id/2021/11/15/legitimacy-theory-and-its-relationship-to-csr/

[18] Rahmawati, A., Tarmizi A., "Financial corporate performance and corporate social responsibility disclosure," 2012. http://ejournal-s1.undip.ac.id/index.php/%20accounting

[19] Dare, J. O, Olakunle A. O. Seyi V. A., Idris S. I., "A Critical Review of the Application of the Legitimacy Theory to Corporate Social Responsibility," International Journal of Managerial Studies and Research, vol. 9, no. 3, pp. 1-6, 2021. doi.org/10.20431/2349-0349.0903001.

[20] Burlea, A. S., Popa, I., "Legitimacy theory," *Encyclopedia of corporate social responsibility*, *21*, pp1579-1584, 2013. http://www.springerreference.com/docs/html/chapterdbid/333348.html (accessed December 2, 2021).

[21] Martínez-Ferrero J. Garcia-Sanchez I. M. Cuadrado-Ballesteros B., "Effect of Financial Reporting Quality on Sustainability Information Disclosure" Corporate Social Responsibility and Environmental Management, vol. 22, issue 1, pp. 45-64, 2015. http://doi: 10.1002/csr.1330.

[22] Eisinga P. J., "Determinants of Corporate Responsibility Disclosure Quality - A Whole Application of Legitimacy Theory to Explain Quantitative Environmental Reporting", 1-40, 2017. https://www.semanticscholar.org/paper/Determinants-of-corporate-responsibility-disclosure-Eisinga/708762a9ccacb0250dae31c2d3dd0aacd7fa06e2 (accessed December 7, 2021).

[23] Semykina, A., Wooldridge, J. M. "Estimating panel data models in the presence of endogeneity and selection," Journal of Econometrics, vol. 157, no. 2, pp. 375-380, 2010. https://doi.org/10.1016/j.jeconom.2010.03.039.

[24] Susana C., Wróblewski D., José I. J., "Detecting Earnings Management Investigation on Different Models Measuring

Earnings Management for Emerging Eastern European Countries," International Journal of Research-Granthaalayah, vol. 5, no. 11, pp. 1-38, 2017. DOI: https://doi.org/10.29121/granthaalayah.v5.i11.2017.2351

[25] Chang A. S., Li Y., Chen Y. L., "Environmental Performance Disclosure in the CSR Reports of Construction Companies," International Journal of Trade, Economics and Finance, vol. 8, no. 3, pp. 158 – 164, 2017. DOI:10.18178/ijtef.2017.8.3.555.

[26] PennState Elderly College of Science. "Applied Regression Analysis, In 10.7 - Detecting Multicollinearity Using Variance Inflation Factors," The Pennsylvania State University, 2018.

[27] Bryman, A., & Cramer, D., "Multivariate analysis: Exploring relationships among three or more variables in *Quantitative data analysis with SPSS for Windows: A guide for social scientists"*. Routledge, pp. 283 – 321, 1997.

[28] Johnston, J., Dinardo, J., *Econometric Methods*, 4 Ed., the McGraw-Hill Companies, New York, 1997.

[29] Hiestand T., "Using Pooled Model, Random Model, and Fixed Model Multiple Regression to Measure Foreign Direct Investment in Taiwan," International Business & Economics Research Journal, vol. 4, no. 12, pp. 1-16, 2005. https://doi.org/10.19030/iber.v4i12.3642