SUSTAINABILITY DISCLOSURES AND MARKET VALUE OF FIRMS IN EMERGING ECONOMY: EVIDENCE FROM NIGERIA

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ABSTRACT: *This study investigates how overall sustainability disclosures and it's disaggregate dimensions of environment, social and governance affect market value of firms in Nigeria as an emerging economy using company's' specific disclosures. Tobins Q were used to proxy firm market value. The study selected 93 out of 120 non-financial firms listed on the Nigerian Stock Exchange as at 2015. Ex Post Facto research design was adopted and the secondary data was collected from annual reports of sampled firms from 2006 to 2015 through content analysis. The data were analysed with descriptive statistics, correlation analysis, principal component analysis while pooled ordinary least squares regression was employed to test formulated hypotheses. The analysis showed that overall sustainability disclosures have significant positive effects on firm value. When treated individually, environmental sustainability disclosures and corporate governance disclosures have a significant positive effect on market value of firm. The study also reveal that social sustainability disclosures have negative and insignificant effect on market value of firm. Based on these findings, the study recommended among other that companies should foster greater sustainability and long-term value creation by integrating sustainability metrics into their reporting model and strategy. Firms in Nigeria should adopt and disclose environmental friendly policies since it potray their commitment towards achieving the goal of sustainable development.*

KEYWORDS: Sustainability Disclosures, Environmental Disclosure, Social Disclosures, Corporate Governance, Firm Value

INTRODUCTION

Sustainable development is the most significant issue facing society today. Today investors and other stakeholders in Nigeria and beyond demand holistic view of business through corporate reporting. Stakeholders want information that will enable them to more effectively assess the total economic value of an organisation. They needed to have more detailed information about the present and the expected future rather than just the past economic situation of company. Reporting to provide users with broad data about all activities and uncertainties which they need to make correct judgment about a company is in the public interest in this century of global financial and economic crunch, increased sharp business practices, global warming, ozone depletion, water scarcity among other challenges of this century. Corporate report is used by corporate managers to communicate their activities to wide range of stakeholders that do not take part directly in the day to day running of companies. Some of these company's activities will have future impact on the society, ecosystem and the economy which affect

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the chance of future generations meeting their needs (Suttipun, 2012). Thus the public want to know through disclosures which companies it can trust and, more importantly, which it cannot.

Unfortunately, the information that will enable investors to assess all the significant risks of firms' activities are missing from the conventional corporate report (Lubber & Moffat, 2010). Many drivers of value are not accounted for in the conventional corporate report. There have been increasing concerns that existing system of corporate reporting lack transparency and no longer provide all the information stakeholders need to assess corporate performance and value. Numerous studies have highlighted criticisms and limitations of the existing financial reporting model (Gatimbu & Wabwire, 2016; Feyitimi, 2014; Thiagarajan & Baul, 2014).

Meanwhile global climate change and the subsequent depletion of natural resources; financial and economic crunch has raised fundamental questions about the functioning of the capital markets and the extent to which existing corporate disclosures highlight systemic risks and the true cost of doing business in today's world. The climax of the criticism is the crises of confidence and credibility that marked investment scene following the collapse of world known corporation in the developed and developing countries and the resultant loss of confidence in capital market (Uwuigbe, Peter, & Oyeniyi, 2014; Abubakar, Garba, Sokoto, & Maishnu, 2014).

To overcome the criticisms and the corresponding lack of trust in the conventional corporate report many are now calling for the introduction of a reporting model that provides a strategic picture of the company, focusing on all the issues which have a material impact on its business model. In reaction to the calls and concerns, companies have attempted to improve the information available for stakeholder decisions through supplementing their traditional financial reporting with the reporting of non-financial information (Cohen et al., 2012; KPMG, 2011). The reporting model that addresses the criticisms of the conventional financial reporting is the one that reflect both positive and negative aspects of the organization's performance to enable a reasoned assessment of overall performance. Solution is offered by reporting on financial and nonfinancial indicators covering Environmental, Social and Governance issues hereafter referred to as ESG only. Companies now disclose on emerging ESG issues also referred to as sustainability disclosures.

Sustainability report is a concept that is gaining acceptance around the globe. It often overlaps with various terms/approaches such as triple bottom line reporting, corporate responsibility reporting, ESG reporting, Sustaianbility reporting has to do with measuring and disclosing on various non-financial information and firms performance in relation to the goal of sustainable development. It means integration of environmental, social and governance factor into investment analysis, security selection, portfolio construction and risk management (BSR 2012)

On the extent of this sustainability reporting in emerging economies, Sobhani, Zainuddin, & Amran, (2011) explained that corporate sustainability disclosure is lagging in developing countries. Also, sustainable reporting practices is still voluntary and extent of disclosure very low in Nigeria. Companies in Nigeria report sustainability issues in different ways and comply with different reporting framework resulting to production of various types of reports. No wonder Nigeria is classified by KPMG (2011) in the corporate sustainability quadrant as starting behind. Nigeria companies mostly disclose some specific sustainability measures. Similarly, Isa (2014) provides empirical evidence that sustainability

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disclosure constitutes only two percent of the corporate disclosures in Nigeria. However, Fifka & Meyer (2013) and Ngwakwe (2013), noted that many emerging markets have shown great improvement in ESG integration in the last decade. It then means that growing number of companies are becoming more responsive to investors' concern and are now providing sustainability report in both developed and emerging economies for well over a decade (Ceulemans, Molderez, & Van Liedekerke, 2015).

Increase in number of firms from developed and emerging disclosing on sustainability issues has attractted a great deal of research on sustainability disclosures. Nonetheless, the implications of sustainability reporting on firm value from these empirical studies, are still fragmented and competing in order words previous empirical studies has contradictory findings. In line with this view, Joseph (2016) in his reviews of related literature on the effect of sustainability reporting on firm's performance found that researchers have not reached a consensus on whether firms can maximize their value if they implement sustainability reporting. Thus whether disclosing on sustainability disclosure is value relevant remains relatively unaddressed in the academic literature in Nigerian context. In this paper, we seek to provide empirical evidence to help resolve this problem. The major concern for this study in question form is: to what extent can a firms in emerging economy improve its market value by upgrading its ESG disclosure practices? Specifically, the study examines whether environmental sustainability disclosures, social sustainability disclosures and corporate governance disclosures drive firm value measured with Tobin's Q.
Data were extracted from the published annual report of firms in ten (10) sectors of Nigeria Stock Exchange from 2006 to 2015 through content analysis. The sectors are: Agriculture, Conglomerate, Construction & Real Estate, Consumer, Healthcare ICT, Industrial, Oil & Gas, Resources and Services Sectors. These sectors were chosen because they contribute immensely to sustainable development in Nigeria.

The remainder of this paper is organized as follows. Section 2 reviews the existing studies in the area of sustainability disclosures and market value of firm. Section 3 describes sources and method of collecting data, how the dependent and independent variables are measured and the empirical methods used to test the hypotheses. Section 4 present the results and discuss findings. Section 5 concludes the study and make recommendations.

REVIEW OF RELATED LITERATURE

Conceptual and theoretical Framework

Corporate reports are primary mechanism used to impart unbiased knowledge about the organisation in an informative manner. Investors, creditors, regulators, and other users of financial reports take informed economic decisions based on information in corporate reports. According to Munoz, Rivera, & Moneva (2008), corporate sustainability encompasses the adaptation of corporate processes and strategies to sustainable development. Sustainability disclosure is all about reporting on how a company portrays itself responsibly in terms of environmental, social and governance issues. The term has been used in the past to describe a firm"s voluntary actions to manage its environmental and social impact and increase its positive contribution to society (Khan, Serafeim, & Yoon, 2015).
Sustainability disclosures often involve a mix of quantitative and qualitative information (Schaltegger, 2012). In order to enhance comparability and credibility of sustainability disclosures, there are a lot of regulations and guidelines by different organisations regarding the structure and quality of sustainability

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reporting. These include: SustainAbility, UN Global Compact, a United Nations initiative encouraging corporations to adopt 10 established sustainability principles and report on them. Global Reporting Initiative (GRI), AccountAbility, International Organization for Standardization (ISO), standard (ISO 14000 and ISO 26000), the Sustainability Integrated Guidelines for Management (SIGMA) project, Sustainability Accounting Standards Board (SASB), Carbon Disclosure Project and Global Framework for Climate Risk Disclosure (Overland, 2007; Siew, Balatbat, & Carmichael, 2013). The use of wide range of framework by companies to report their sustainability activities in the view of Reddy & Gordon (2010) and (Finch, 2005), has resulted not only in a lack of consistency but also in a wide variation in the structure and content between those reports.

Sustainability issues are complex and measuring them has many challenges as there is no standard measure available like those for financial disclosure, however a range of measures and guidelines have been used by previous studies. For the purpose of this study, specific sustainability disclosures will be measured based on ESG dimensions. This is similar to Sustainable Asset Management (SAM) that focuses on eco-efficiency and environmental reporting along with industry-specific criteria (Delmas & Blass, 2010). Governance is used in place Economic dimension in line with general trend. Governance dimension is also important as it represent enforcement mechanisms. No wonder Osisioma (2013) describe it as the mechanism by which stakeholders of a company exercise control over corporate managers and provide overall direction to the firm. Commenting on importance of corporate governance, Usman and Amran (2015) noted that efficient corporate governance framework will help in mitigating reoccurrence of global financial crises. This assertion and Nigeria code of corporate governance 2018 which emphasised the need for corporate governance necessitated the inclusion of governance in this study as sustainability indices.

Firm value is an economic measure which reflect the market value of a business. In the view of Emeka-Nwokeji (2019), firm's market value is influenced by investors' perceptions of its managers' ability to anticipate and respond to future changes in the firm's economic environment. The forward-looking, capital market–based measure of the value of a firm used in this study is Tobin's q. Tobin's q, represents investors' perceptions of a firm's market value relative to its book value. Tobin's Q, is the ratio of the market value of equity (fiscal year-end price times number of shares outstanding) plus book value of debt (total assets less book value of equity) to total assets (Albuquerque, Durnev, & Koskinen, 2013). It reflects the market's expectations of future earnings and thus a good proxy for firm value (Campbell & Mínguez-Vera, 2008). Tobin's q has gained wide acceptance as a measure of a firm value.

The theories that provided important theoretical frameworks for sustainability disclosure research and is used to explain the motivation for this study are agency, stakeholders and legitimacy. The underlying assumptions of the study is that provision of sustainability related information is critical to a firm's ability to reduce information asymmetry between agent and principal (agency), accommodate information needs of variety of stakeholders with sometimes conflicting demands (stakeholders), operate within the bounds and norms of the society (legitimacy) to obtain acceptance while simultaneously improving overall value of firm.

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Empirical Review

Sustainability Disclosures and firm performance

Sustainability reporting has now been part of corporate reporting in both developed and emerging economies for well over a decade. Over this time, there have been considerable increase in academic literature on sustainability reporting in developed countries, while number of empirical studies on the responsibility/sustainability reporting in Africa is very limited and sporadic (Fifka & Meyer, 2013). Literature on aggregate sustainability disclosure and performance of companies is limited, therefore theoretical and empirical references will be drawn from both study on aggregate sustainability disclosures as well as component of sustainability (environmental, social and governance) literature. In a most recent study using data from the Nigerian brewery industry Nnamani, Onyekwelu, & Ugwu (2017) examined the effect of sustainability accounting and reporting on financial performance. The study used social responsibility cost and total personal cost to turnover ratio to measure sustainability reporting and Return on Assets and Return on Equity to represent financial performance. The study revealed that Total equity to total asset ratio has no significant effect on the return on asset. Similarly, Usman & Amran (2015) examined the relationship between the dimensions of CSR disclosures and corporate financial performance (CFP) among Nigerian listed companies. The study used environmental disclosure, community involvement disclosure, human resource disclosure, product disclosures as measure of sustainability disclosure. Result show that disclosing environmental-related information in the corporate annual report leads to a decrease in both accounting and market based corporate financial performance. This indicate that environmental disclosure among Nigerian companies may be value destructive. The study also revealed a significant positive relationship between community involvement disclosure and accounting based performance (Return on Assets) but insignificant negative relation-ship with market-based measures of performance (Share Price). There is also a significant positive relationship between human resource disclosures and ROA, but neutral relationship with share price. Garg (2015), analyzed large India companies with five year data to test the impact of sustainability reporting on firm performance. The study document that sustainability reporting practices of a company impact its performance both ROA and Tobin's Q negatively in short run but insignificant impact on both measures in the long run. In examining the relationship between sustainable business practices and financial performance using sustainability materiality index, sustainability immaterial index and accounting performance measures, Khan et al (2015) found that firms with strong ratings on material sustainability issues have better future performance than firms with inferior ratings on the same issues. In contrast, firms with strong ratings on immaterial issues do not outperform firms with poor ratings on these issues. Also, firms with strong ratings on material issues and concurrently poor ratings on immaterial issues have the best future performance. Across all specifications, they documented that portfolios formed on the basis of the materiality index outperform portfolios formed on the basis of the total index or portfolios formed on the basis of the immaterial index. These findings are confirmed using firm-level panel regressions that account for a host of additional firm characteristics such as analyst coverage, investments in R&D, advertising and capital expenditures, and board characteristics and firm or industry fixed effects. Aondoakaa (2015), evaluates the impact of sustainability reporting on corporate performance of selected quoted companies in Nigeria. For reason not properly explained the study proxy firm performance with four measures (ROA, ROE, Net Profit Margin (NPM), Earning Per Share (EPS)) but proxy the sustainability reporting with only one measure sustainability reporting index (SRI) for the four models analysed. Analysis shows that Sustainability Reporting is positively related to ROA. Sustainability indices are positively related to ROE and NPM. Sustainability reporting is positively related EPS but environmental index is negatively related to EPS. In the same line of inquiry, Hussain

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(2015), documents that sustainability performance has a significant positive impact on the market value and accounting performance of the reporting firms. Specifically, this study shows that the different sustainability dimensions (economic, social and environmental) are not equally relevant for the financial performance. The economic dimension is never relevant for explaining any change in firm's financial performance, but the environmental and social dimensions are both positively related. Value relevance study by Mervellskemper, Streit, & Bochum (2015) investigates investors' perception of ESG performance. Their result indicates that corporate governance performance score is positively related to market value while environmental and social performance scores have a negative impact. Furthermore, they show ESG performance scores are insignificant which leads to the conclusion that they cannot be considered as value-relevant. Employing Dow Jones Sustainability Index, Yu & Zhao (2015) find a positive relation between sustainability performance and firm value, after controlling for variables that have been found to affect firm value in the existing literature. The study supports the value enhancing theory regarding the role of sustainability engagement in firm valuation. This indicate that capital the market does pay premium for companies that are environmentally and socially responsible and well-governed. The study also documents that the valuation premium of sustainability is higher in countries with stronger investor protection. Furthermore, the premium is more pronounced for firms operating in an environment of higher financial transparency. In a study of the relationship between corporate sustainability reporting and profitability in Nigerian banks, Nwobu (2015) provided empirical evidence that the small positive correlation between sustainability reporting index and Profit After Tax (PAT). The study also found a small positive correlation between sustainability reporting index and shareholders fund. Bhatia & Tuli (2014), assessed the extent and level of sustainability reporting in India using companies producing separate sustainability report. The study discovered that there is no significant difference in the inter industry disclosure scores. One-way ANOVA showed that no statically significant variation was found in the mean disclosure scores of various industry groups. In a study on the consequences of mandatory corporate sustainability reporting, Ioannou & Serafeim (2014) established a positive and significant relation between Tobin's Q and the predicted component of the ESG disclosure, suggesting that the effect of mandating sustainability reporting is, on average, value-enhancing rather than value-destroying for the treated firms in our sample. Increase in disclosures is associated with increase in firm valuation as reflected in Tobin's Q. Study by Eccles, Ioannou, & Sefafeim (2014), provides analytical evidence that High Sustainability companies significantly outperform Low Sustainability companies over long-term, both in terms of stock market and accounting performance. That sustainability leaders tend to have better stock performance, lower volatility, and greater return on assets and return on equity. This finding suggests that companies can adopt environmentally and socially responsible policies without sacrificing shareholder wealth creation. In fact, High Sustainability firms generate significantly higher stock returns, suggesting that developing a corporate culture of sustainability may be a source of competitive advantage for a company in the long-run. The authors suggest this outperformance is based on superior governace structures and better constructive engagement with stakeholders. From extant literature, implications of sustainability reporting on firm value is not clear. Citing Margolis & Walsh (2003), Eccles et al (2014) and Hussain (2015) noted that empirical examinations of the link between sustainability and corporate financial performance have resulted in contradictory findings, ranging from a positive to a negative to a U-shaped, or even to an inverse-U shaped relation. Thus attempting to draw general conclusions from the literature is not possible and hence need for further study.

Environmental sustainability disclosures and performance

Eze, Nweze, & Enekwe (2016) examine the effects of environmental accounting on a developing nation with emphasis on Nigerian and discovered that Environmental information in the annual report is positively related to a firm's size. Plumlee, Brown, Hayes, & Marshall (2015) examine the relationship between environmental disclosure quality and firm value using both cost of equity capital and expected cash flow components. The study control for environmental performance and partition environmental disclosures by type and content in the analysis to differentiate among various proposed explanations for the sometimes-contradictory findings from prior research. They document a positive relation between voluntary disclosure quality and firm value through both the cash flow and cost of capital components. Hussain (2015) examine the impact of Sustainability performance on financial performance of Global Fortune firms and find that economic sustainability have no significant relationship with both market performance and accounting performance of reporting firms. Environmental sustainability and social sustainability performance measures have significant and positive relationship with both market performance and accounting performance of reporting firms. There is no relation between all the sustainability disclosures and changes in capital structure. Ioannou & Serafeim (2014) show that environmental disclosure, social disclosure and governance disclosure index have positive and significant effect on firm value. Nyirenda, Ngwakwe, & Ambe (2013) shows that there is no significant relationship existing between firms' environmental management practices and its return on equity. Specifically, carbon emission reduction, energy efficiency and efficiency in water usage does not affect firm's return on equity. In a study of quoted companies in Bombay Stock Exchange in India, Makori & Jagongo (2013) find a significant negative relationship between Environmental Costs which cover all cost incurred concerning environmental protection, emissions treatment as well as wasted material and Return on Capital Employed (ROCE) and Earnings per Share (EPS) and a significant positive relationship between Environmental Costs and Net Profit Margin and Dividend per Share. Cortez & Cudia (2011) found that Environmenatal sustainability performance has positive and significant impact on revenue generation but insignificant positive impact on profitability and shareholders wealth.

Social sustainability disclosures and firm performance

In a more recent study, Hasan, Kobeissi, Liu, & Wang (2016) shed light on how the underlying mechanisms through which corporate social responsibility leads to greater shareholder value creation, by investigating on the mediating role of total factor productivity in the relationship. The study documents a significant positive effect of corporate social performance on Tobin's Q. It shows significant and positive relationship between performance and total factor productivity. More importantly, the mediation analysis reveals that total factor productivity significantly mediates the CSP-CFP relationship. In a study of the relationship between corporate social responsibility and firm value using a sample of U.S. companies, Gherghina, Vintilă, & Dobrescu (2015), provides analytical evidence that corporate social responsibility positively influences firm value. This evidence is consistent with the instrumental stakeholder theory view, since the companies involved in corporate social responsibility undertakings use in a more effective way their resources in order to better satisfy stakeholders' needs. Khlif, Guidara, & Souissi (2015), use a coding index approach to measure the extent of annual reports' social and environmental disclosure and its relationship on a sample of 168 firm-year observations over the period 2004-2009 from South Africa and Morocco. They document a significant positive relationship between social and environmental disclosure and corporate financial performance. In a most recent study using data from the Nigerian brewery industry from 2010 to 2014, Nnamani et al (2017) examined the effect of sustainability accounting and reporting on financial performance. The study used

social responsibility cost and total personal cost to turnover (TPCT) ratio to measure sustainability reporting and Return on Assets and Return on Equity to represent financial performance. The study revealed that Total equity to total asset (TETA) ratio has no significant effect on the return on asset (ROA). Also total personnel cost to turnover (TPCT) ratio has no relationship with the return on asset (ROA). Vujicic (2015), focused on examining the interactions between corporate social responsibility and financial performance in the form of stock returns for a sample of US firms over at two-year period. The work uses a set of disaggregated social responsibility indicators for environment, community and employment, and compares the results to that of an overall corporate social responsibility score. The study provides evidence that firms with higher social responsibility scores tend to achieve lower stock returns, in both the case of an aggregate rating, and individually examined indicators.

Corporate governance disclosures and firm performance

Study by Ruparelia & Njuguna (2016) disclose significant variations in the level of board remuneration across the companies and a significant positive relationship between board remuneration and DY, but not ROA, ROE, and EPS. When disaggregated to financial market segments, the results confirmed a statistically significant relationship between board remuneration and with dividend yield in the banking sector. The same was not reported for ROA, ROE, and EPS. In the insurance segment, there was a statistical significance between board remuneration and ROA only, while in the investment sector, there was no significant relationship between board remuneration and financial performance measures. Sila, Gonzalez, & Hagendorff (2016) show a negative relationship between boardroom gender diversity and equity risk across firms. Haryono & Paminto (2015), use a Structural Equation Modeling (SEM) and find that corporate governance has positive significant effect to the financial performance. In an attempt to empirically find out whether corporate governance and corporate profitability are related using Indian context, Aggarwal (2013) report that governance rating of company has a significant impact on ROS, but not on other three profitability measures and thus posits that corporate governance has positive but not significant impact on corporate profitability. Gull, Saeed, & Abid (2013), provide epirical evidence that there is a positive relationship between corporate governance mechanism and firm performance. Bubbico, Giorgino, & Monda (2012) investigates how corporate governance impacts on the value of listed financial companies in Italy. The study show that there is positive and statistically significant relationship between corporate governance and market-value of financial institutions. On specific corporate governance mechanisms, Emeka-Nwokeji (2018) find that board size, board gender diversity and audit committee size positively and significantly affect firm market value while Board independence and board remuneration has significant negative effect on market value of sampled companies. The study further shows that directors' shareholding has insignificant negative effect on market value while auditors' credibility has positive but insignificant effect on market value. Based on the previous finding, it is reasonable to test the following assertions stated in their null form:

1. Aggregate sustainability disclosures have no effect on market value of firms
2. Environmental sustainability disclosures have no effect on market value of firms.
3. Social sustainability disclosures have no effect on market value of firms.
4. Corporate governance disclosures have no effect on market value of firms.

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METHODOLOGY

This study adopted *ex post facto* research design and the population consist of all quoted non-financial companies on the Nigerian Stock Exchange. The sectors grouped as non-financials are: Agriculture, Conglomerate, Construction & Real Estate, Consumer, Healthcare ICT, Industrial, Oil & Gas, Resources and Services Sectors. 93 out of 122 firms listed under the sectors were selected from 2006 to 2015 based on those firms that have complete data on the variables of the study. The explanatory variables were extracted from annual reports of the selected companies through content analysis. On the other hand, data for firm value (dependent) and control variables were collected from MachameRATIOS, a database maintained by TalkData Associates (www.machameRATIOS.com. The data were analysed using pooled ordinary least regression with the aid of STATA software. Before analyzing the pooled data, some preliminary statistics such as descriptive statistics, normality, correlation and two post-regression diagnostic test (multicollinearity and heteroscedasticity) were also conducted to confirm assumptions of regression. To test the hypotheses of this study, the following model stated in its functional and econometric form was used.

$$TOBINSQ_{it} = \alpha_0 + \beta_1 ENVI_{it} + \beta_2 SOCI_{it} + \beta_3 GOVI_{it} + \beta_4 FSIZE_{it} + \beta_5 FAGE_{it} + \beta_6 TLBTA_{it} + \varepsilon_{it}$$

$$TOBINSQ_{it} = \alpha_0 + \beta_1 SDI_{it} + \beta_2 FSIZE_{it} + \beta_3 FAGE_{it} + \beta_4 TLBTA_{it} + \varepsilon_{it}$$

Where:

Tobin's Q = Firm value which is measured as Market Value of Equity + Book Value of Total Debt divided by Total Asset

β_0 = Intercept estimates

β_{1-6} = Coefficient of the independent variables

e = error term

Specifically, the independent variables are measured as: Sustainability Disclosures Indices (SDI) which is aggregate of Environment Sustainability Principal Component Index (ENVI), Social Substainablity Principal Component Index (SOCI), Corporate Governance Sustainability, Principal Component Index (GOVI). Control Variables are: Firm Size (FSIZE), is measured as Log of total assets. Firm Age (FAGE) is measured as Number of years a company is listed on the Nigerian Stock Exchange. Leverage (TLBTA) is measured as Total Liabilities divided by total assets.

Empirical Analysis and Discussion of Findings

ESG Component Regression Analysis (For Testing Hypotheses 1, 2 and 3)

To test the hypotheses, first based on the specific environmental, social and governance disclosures, Principal Component Analysis (PCA See Tables 4, 5 and 6 Appendix I) was used to generate the composite index for environmental sustainability (ENVI), social sustainability (SOCI) and corporate governance disclosure (GOVI) which was used for the empirical analysis presented on table 4.1below.

Table 4.1: Market Performance and ESG Component Regression Model

Independent Variables	Coef.	t-Stat	P>/t/
ENVI	0.424	3.40	0.001*
SOCI	-0.034	-0.36	0.716
GOVI	0.561	4.20	0.000***
fsize	-0.786	-3.40	0.001*
fage	-0.043	-4.13	0.000***
tlbta	0.024	24.38	0.000***
F – Stat	113.34		0.000***
R-squared	**0.439**		
Adjusted R-squared	**0.435**		

Source: Extract from STATA Output
Where *, *, implies statistical significance at 05% and 1% levels respectively**

Table 4.1 above show results of the three explanatory variables employed in the study and each control variable from the regression model and provides interpretation as follows:
The R-squared and Adjusted R-squared of the model are 0.439 and 0.435 which indicate that about 44% of the systematic variations in market based performance variable measured by Tobins q of the pooled companies over the period of interest was jointly explained by the independent variables. This implies that variation in firm value in Nigeria cannot be completely explained by all the explanatory variables employed in this study. Thus about 56% causes of variations in firm value are attributed to some other variables. Regardless of the value of R-squared, the coefficients are significant thereby rejecting the null hypothesis of insignificance still represent the mean change in the response for one unit of change in the predictor while keeping other predictors in the model constant. Thus the F-statistic value of 113.34 and its associated P-value of 0.000 shows that the OLS Pooled regression models on the overall are statistically significant at 1% level, which connote that the coefficients of the independent variables are statistically different from zero and may be adopted for policy purposes.

TABLE 4.2: HETEROSCEDASTICITY AND VARIANCE INFLATION FACTOR TEST

Mean VIF	**1.51**
Heteroscedasticity Test (P>chi2)	**0.20**

Source: Extract from STATA Output

The result obtained from the variance inflation factor analysis and also the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity revealed a mean VIF value of 1.51 which is less than the bench mark value of 10 thereby absenting the consequences of multicolinearity. Also, the probability value of 0.20 resulting from the test for heteroscedasticity implies that the dataset is free from the presence of unequal variance.

Table 4.3: Market Performance and Aggregate Sustainability Disclosure Regression

Independent Variables	Coef.	t-Stat	P>/t/
SDI (H4)	.4068	4.06	0.000***
fsize	-.5796	-2.45	0.015*
fage	- .0312	-3.17	0.002***
tlbta	.0235	24.47	0.000***
F – Stat	163.35		0.000***
R-squared	**0.4292**		
Adjusted R-squared	**0.4266**		

Source: Extract from STATA Output

Where *, implies statistical significance at 1% level**

The regression results in Table 4.3 above examine how the variable of overall sustainability disclosures together with the control variables of firm size, firm age and firm leverage affect firm value measured with Tobin's q. The R-squared value of 0.429 with Adjusted R-squared of 0.426 indicate that about 43% of the systematic variations in the market based performance variable of Tobins q of the pooled companies over the period of interest can be attributable to sustainability disclosures. Regardless of the value of R-squared, the F-statistic value of 61.94 and its associated P-value of 0.000 shows that the OLS Pooled regression models is appropriate and are statistically significant at 1% level, which connote that the coefficients of the independent variable is statistically different from zero and may be adopted for policy purposes.

Table 4.4: HETEROSCEDASTICITY AND VARIANCE INFLATION FACTOR TEST

Mean VIF	**1.58**
Heteroscedasticity Test (P>chi2)	**0.000**

Source: Extract from STATA Output

The result obtained from the variance inflation factor analysis and also the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity revealed a mean VIF value of 1.58 which is less than the benchmark value of 10 thereby absenting the consequences of multicolinearity. The probability value of 0.000 resulting from the test for heteroscedasticity implies that the dataset is not free from the presence of unequal variance. The implication is that there is significant differences in the sampled companies. The differences in the sampled companies supposed to be insignificant but based on the P-value of less than 1% we reject null hypothesis and accept alternative hypothesis and conclude that there is heteroscadasticity. To correct for the heteroscadasticity, we did another robust regression.

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Table 4.5 Market Based Performance and Aggregate Sustainability Disclosures Robust Regression

Independent Variables	Coef.	t-Stat	P>/t/
SDI (H4)	.193	8.09	0.000***
fsize	-.368	-6.51	0.000***
fage	.0017	0.74	0.458
tlbta	-.0175	76.27	0.000***
F – Stat	1585.84		0.000***
R-squared	**0.429**		
Adjusted R-squared	**0.426**		

Source: Extract from STATA Output
Where *, implies statistical significance at 1% level**

Testing Hypothesis One: Environmental sustainability disclosures have no significant effect on firm value.
To test the above hypothesis, the individual environmental sustainability disclosures of environmental compliance policy, environmental sensitive products, environmental conservative disclosure, environmental donations and energy consuming assets were first used to derive the principal component analysis (PCA) based on the individual disclosures and this was used to generate the composite index for Environmental sustainability (ENVI) which was used for the regression on table 4.1

Based on the result from table 4.1, the variable of environmental sustainability disclosures with coefficient of 0.424 and P-value of 0.001 have positive significant effect on return on market value of firms in Nigeria during the period of study. The result indicates that a unit increase in environmental sustainability disclosures will result to 42% significant increase in the market value of sampled firms during the period of study. This support the findings of Eze et al (2016) and Hussain (2015) Ioannou & Serafeim (2014), that environmental sustainability have positive and significnt relationship with both firm value and accounting performance of reporting firms. Makori & Jagongo (2013) found that envionmental cost has a significant positive relations with the net profit margin and dividend per share. Cortez & Cudia (2011) found that Environmenatak sustainability performance has positive and significant impact on revenue generation but insignificant positive impact on profitability and shareholders wealth. Wagner (2010) and Clarkson et al (2010) found that environmental sub indices of corporate sustainability reporting ia significantly and positively associated with Tobin Q. But contrary to the findings of Usman & Amran (2015), that environmental disclosures have significant negative effect on both measures of corporate financial performance; and also Mervellskemper et al (2015) that environmental performance scores have negative impact on market value of equity. Reddy & Gordon (2010) found that Environmental report component of sustainability reporting was insignificant in explaining the abnormanl returns of companies. Stretching this result further, various specific disclosures results show that environmental compliance policy is a significant driver of performance Tobins q Environmental sensitive products has positive but insignificant effect on Tobins q. Environmental conservative disclosure has positive but insignificant effect on Tobins q. Environmental donations has positive and significant effect on Tobins q. While Energy consuming assets has positive but insignificant effect on Tobins. From the foregoing we conclude by accepting the alternative

hypothesis that environmental sustainability disclosures have significant effect on market value of firms in Nigeria. This finding can be applied for policy recommendation.

Testing Hypothesis Two: Social sustainability disclosures do not have significant effect on firm value.

In testing the above hypothesis, the individual social sustainability disclosures (social donations, disclosure of community, social responsibility, disclosure of charitable gifts, disclosure of human resources and employee relations, job creations, investment in employee, disclosure of health, safety and welfare) were used to derive principal component analysis (PCA) based on the individual disclosures that was used to generate the composite index for social sustainability (SOCI) used for the regression on table 4.1

The variable social sustainability disclosure **(SOCI)** have negative and insignificant effect on firm value measured with tobins q. Coefficient of -0.034 and P-value of 0.716 which is more than 5% benchmark adopted for this study confirms this assertion. The results indicate that as sampled firms continue to be involve and disclose on social sustainability issues, their market value decreases by an insignificant fraction. This negates the findings of Hasan et al (2016), Hussain (2015), Gherghina et al (2015) and Ioannou & Serafeim (2014), that social sustainability have significant and positive relationship with both market performance and accounting performance of reporting firms. Khlif et al (2015) that social disclosures has insignificant positive effect on Tobins Q. But support the work of Nnamani et al (2017) that social responsibility measured by Total Equity to Total Asset (TETA) ratio has no significant effect on the return on assets. Also Vujicic (2015) find that CSR score has an extremely statistically significant negative impact on the returns. From the above empirical analysis, we accept the null hypothesis as stated and conclude that social sustainability disclosures do not have significant effect on firm value. The result cannot be considered for policy action.

Testing Hypothesis Three: Corporate governance sustainability disclosures have no significant effect on firm value.

In testing the above hypothesis, the individual corporate governance sustainability disclosures of board size, board independence, board gender diversity, directors' shareholding, audit committee size, directors' remuneration, audit credibility, and control variables were used to derive principal component analysis (PCA) based on the individual disclosures that was used to generate composite index for corporate governance (GOVI) used for the regression on table 4.1.

It was observed from table 4.1 that the variables of **GOVI** with a slope coefficient of 0.561 impacts positively and is significant at 1% (P-value 0.000) on firm value during the period of study. This result reveals that a unit increase in the components of corporate governance sustainability disclosures will significantly improve market value of listed companies in Nigeria. This confirm the findings of Haryono & Paminto (2015), Ioannou & Serafeim (2014), Bubbico et al (2012) and Gull et al (2013) that corporate governance has positive significant effect to the financial performance. It is also in line with finding of Fallatah & Dickins (2012) that corporate governance characteristics are positiviely related to firm value measured by Tobins Q. On the other hand, the result of this study contradict the finding of Aggarwal (2013) that corporate governance has positive but not significant impact on corporate profitability. Based on the regression analysis, we reject null hypothesis as stated and conclude that corporate

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governance sustainability have significant positive effect on firm value measured by Tobin's q. This result can be applied for policy recommendations.

Testing Hypothesis Four: Aggregate sustainability disclosure Index (SDI) have no effect on market value of firms

In order to test the above hypothesis, Sustainability disclosure index (SDI) is derived from the Principal Component Analysis of individual environmental, social and corporate governance sustainability index and regressed with Tobin's q which is presented in table 4.3. Due to the problem of heteroscadasticity Table 4.4 robust regression was conducted and used in testing the hypothesis. From the robust regression in table 4.5, the variable SDI with a slope coefficient of .193 and P-value of 0.000 have a positive effect on firm value proxy by Tobins q during the period of study. This effect is statistically significant at 1% which is less than 5% benchmark adopted for this study. This result reveals that an increase in aggregate sustainability disclosure significantly improve market value of listed companies in Nigeria. This findings of support the work of Yu & Zhao (2015) that sustainability indices is significantly and positively associated with firm value. Reddy & Gordon (2010) found that sustainability reporting has statistically significant relationship with market returns. This result is contrary to the finding of Garg (2015) that sustainability reporting has negative impact on ROA and Tobins q in the short run and insignificant impact on both measures in the long run. It also negates the findings of Mervellskemper et al (2015) that all ESG scores have insignificant effect on market value of equity. The result of analysis suggest that we should reject null hypothesis as stated and conclude that aggregate sustainability disclosures have significant positive effect on firm value. The findings of the study can be summarized as:

1. Environmental sustainability disclosures have significant effect on market value of firms in Nigeria.
2. Social sustainability disclosures have negative and insignificant effect on market value of firms in Nigeria.
3. Corporate governance sustainability have significant positive effect on market value of firms in Nigeria.
4. Aggregate sustainability disclosures index have significant positive effect on market value of firms in Nigeria.

CONCLUSION AND RECOMMENDATION

Sustainability disclosures drives the market value of firms under the nonfinancial sectors in Nigeria. The study indicates that financial rewards of engaging in sustainability disclosures practices outweigh the costs involved in the long run. Companies which score highly on the sustainability metrics are more sustainable and therefore more attractive to long-term investors and other stakeholders. The study provided support that shareholders and other stakeholders value firm high if they disclose environmental related issues. Fostering greater social sustainability disclosure did not guarantee increase in market value of nonfinancial firms in Nigeria. This is seen from the result which reveal that social sustainability disclosure have negative and insignificant effect on firm value. Disclosing on corporate governance mechanism by firms in Nigeria has increasing effect on firm value.

Based on the findings the paper recommends that companies in Nigeria adopt and disclose environmental friendly policies since it potray their commitment towards achieving the goal of sustainable development. Corporate governance mechanisms of firms should be disclosed in the annual

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report since it affects how investors evaluate the firm's capability to create profits in future. Since a robust sustainability disclosures lift a firm above their competitors, companies should foster greater sustainability and long-term value creation by integrating sustainability metrics into their business model and strategy. Care should be applied on company's practices designed to achieve respect for human beings and society since it has value decreasing effect.

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