SUSTAINABILITY PRACTICES, IMPERATIVE FOR MARKET VALUE OF LISTED FIRMS ON NIGERIAN EXCHANGE GROUP

EKPENI KEVIN CHINWE

DEPARTMENT OF ACCOUNTING, BABCOCK UNIVERSITY, ILISHAN-REMO, NIGERIA

EKPENI.KEVIN@ZENITHBANK.COM

ADEGBIE FOLAJIMI FESTUS

DEPARTMENT OF ACCOUNTING, BABCOCK UNIVERSITY, ILISHAN-REMO NIGERIA

ADEGBIEF@BABCOCK.EDU.NG

&

AJIBADE, AYODEJI

DEPARTMENT OF ACCOUNTING, BABCOCK UNIVERSITY, ILISHAN-REMO NIGERIA

AJIBADEA@BABCOCK.EDU.NG

Abstract

The market provides an objective valuation basis through the forces of demand and supply of knowledgeable participants. Firms must provide the needed information for these market participant to make informed decisions. Sustainability of firm has not been priced in because of absence of such information and understanding of associated benefits. Therefore, this study investigated the impact of sustainability practices exert on market value of listed firms on the Nigerian Exchange Group.

The study adopted ex post facto research design with the use of a static panel data, stratified sampling technique was adopted in selecting 26 firms from the population of 168 firms listed on the Nigeria exchange [as at December 31,2020]. The data was analyzed using multiple regression.

Findings revealed that proxies of sustainability practices reacted in various ways to market value of sampled firms. ECSP (P=0.400) and EVSP (P=0.504) have a significant effect on total asset (TA), while SOSP and GOSP insignificantly affect TA (SOSP: p=0.027; GOSP: P=0.028). Considering the coefficients of the explanatory variables; ECSP (α = 2.199); SOSP (α = 0.193); and EVSP (α = 0.551) indicate that ECSP, SOSP, and EVSP positively affect TA while GOSP (α = - 0.141) has negative effect on TA. While firm size provides significant controlling effect on the interactions. Overall, sustainability does exert statistical significant influence on the market value of selected listed firm on the Nigeria exchange. However with the control variable of firm size, this interaction became significant.

In conclusion, various dimensions of sustainability practices reacted in various ways to market value of sampled firms, firms' size has a significant control on this interaction. The study recommended that the management of companies listed on the Nigerian Exchange Group should engage in full sustainability practices vis-à-vis governance, social, environmental and economic sustainability practices to enjoy positive valuation in the market thereby improving market value. The study also recommended that market participants should consider proxies of sustainability in the determination of offer and bid price.

Keywords: Market Value; Sustainability; Nigeria Exchange Group; Sustainability Practice

Introduction

The objective of every organization is to create and maximize their value over time. One of the major reflector of firm value is the market. The market provides the unique opportunity for the interaction of the forces of demand and supply in striking a balance of what price a willing and knowledgeable buyer is ready to forgo and the price a willing and knowledgeable seller

is ready to accept for a unit of a company. Firms ensure the enhancement of their value by providing information to enable this willing buyers and sellers make an intelligent decision, in achieving this goal, firms ensure that their present activities are such that could guarantee a sustainable future (Lizinska & Czapiewski, 2018). The value of firms encompasses the element of profitability, market value and growth prospects (Oyedokun, Egberioyinemi & Tonademukaila, 2019). Organisations are recently faced with pressure from stakeholders to ensure sustainable world by integrating efforts in economic, environment, governance and social realms, stakeholders interest are now beyond past economic value but seek insight into future prosperity and how the firms engage the economic, environment, governance and social realms

This pressure to provide a more whole information is an attempt to bridge the information gap between the business managers and the market participants. The objective of this study therefore was to investigate the effect of sustainability practices on market value of listed firms on Nigerian Exchange Group.

There are series of theoretical and empirical work in favour of the key role played by the market in providing information for firm investment. For instance, in the neoclassical theory of the firm with adjustment costs, the market value of the firm and its investment are resolved at the same time owing to the efficient manner in which managers handle the underlying economic rudiments. Consequently, market value provides a summary of the information relevant for investment (Reschiwati, Syahdina & Handayani, 2020). Setiadharma and Machali (2017) stated that the market value of the common equity of a firm is computed as the product of per share price adjusted for stock splits and dividends, and the number of common shares outstanding at fiscal year-end.

In the same vein, Sucuahi and Cambarihan (2016) concluded that market value is obtained by multiplying the company's outstanding shares and the price of these shares on the last day of the year, plus outstanding debt. The reason they gave for opting for this model was to match the innovations dating and the market value of the firm in the best possible way. Again, based on the hypothesis that agents in the financial markets make the best use of financial information, it is assumed that market value accurately measures the true position of the firm. Mule, Mukras, Nzioka (2015) argued that the empirical model employs the market value of the firm as a forward-looking performance measure because it represents the market's valuation of the anticipated future stream of profits, on the basis of an estimation of the return that can be created from a firm's tangible and intangible assets. Averagely, therefore, any investment, whether in tangible or intangible assets, should enhance market value.

Several researchers have maintained the use of market value data as indicators of profitability but have either adapted the basic model to include varied capital inputs or have changed the estimation procedure in order to correct for measurement error in Tobin`s Q (Azaro, Djajanto & Sari, 2020; Mule, Mukras & Nzioka, 2015). Tharshiga and Velnamby (2017) defined market value as the share price of firms in a fiscal year. Similarly, Muhammad, Modu and Abdullahi (2021) refers to market value of firms to be represented as share price during the period under review.

On the other hand, a number of researchers (Almumani, 2014; Hamyat, Sarita & Hasbudin, 2017) have discarded the use of market value data in estimating profitability. Hadiyanti (2016) defined firm value as investors` perception about the success of an organization that is related to stock price. Azaro, Djajanto and Sari (2020) defined value of firms as the total amount investors are willing to pay for all their shares. For this study, market value is the market capitalization of the listed firm for the period of study.

This study is anchored on stakeholder theory. Organisations need competitive advantage and reputational benefits to build their holistic value which could be achieved through sustainability practices. According to stakeholder theory, the achievement of firm`s objectives depends on its ability to balance its interest with those of the stakeholders. This is because the stronger the stakeholder relationship of a firm is, the easier it is to achieve its objectives. Sustainability practices is carried out to a broader range of stakeholders and as such, it will enhance the achievement of sustainable value of firms. An organisation that practice economic, social, environmental and governance sustainability will present itself as a responsible entity meeting the interest of all stakeholders not just the shareholders. As such, firms will enhance their reputation, stakeholder relationship, competitive advantage and maximize value.

Literature Review

Lo and Sheu (2007) found a significantly positive relationship between corporate sustainability and firm market value. Olayinka and Oluwamayowa (2014) confirmed that the various components of corporate environmental disclosure have significant positive impact on market value of quoted Nigerian firms. Their findings revealed that energy policy, impact on biodiversity, award received for installing environmental management system have an insignificant positive impact on market value. However, environmental research and development cost, environmental pollution and control policy, waste management cost and cost of compliance with environmental laws have a negative impact on market value.

Emeka-Nwokeji and Osisioma (2019) found that environmental sustainability disclosures and corporate governance disclosures, when handled separately, have a significant positive effect on market value of firm. However, the study also reveal that social sustainability disclosures have negative and insignificant effect on market value of firms. According to their results, a unit increase in the components of corporate governance sustainability disclosures will significantly increase market value of listed companies in Nigeria, thereby confirming previous findings (Bubbico, Giorgino and Monda, 2012; Gull, Saeed and Abid, 2013; Ioannou and Serafeim, 2014; Paminto, 2015) that corporate governance has positive and significant effect on financial performance. It also supports the finding of Fallatah and Dickins (2012) that corporate governance characteristics have positive effects on firm value measured by Tobin`s Q.

In contrast, the result of this study disagrees with the findings of Aggarwal (2013) that corporate governance exerts a positive but insignificant impact on corporate profitability. The study (Emeka-Nwokeji and Osisioma, 2019) further revealed that social sustainability disclosure has negative and insignificant effect on firm value measured with Tobin's Q. This

disproves the findings of various researchers (Eccles, Ioannou and Serafeim, 2014; Gherghina, Vintilă and Dobrescu, 2015; Hasan, Parven, Khan, Mahmud and Yajuan, 2018; Hussain, 2015), who affirmed that social sustainability has significantly and positively impacts both market performance and accounting performance of reporting firms.

It also negates the findings of Khlif, Guidara and Souissi (2015) that social disclosures have insignificant positive effect on Tobins Q. On the other hand, it supports the work of Nnamani, Onyekwelu and Ugwu (2017) that social responsibility has no significant effect on the return on assets. Similarly, Vujicic (2015) found that CSR score has an extremely statistically significant negative impact on the returns.

Similarly, Loh and Tan (2020) suggested that higher disclosure of sustainability practices leads to higher brand value. However, only one-fifth of the 100 leading brands in Singapore engage in sustainability despites its intrinsic benefits. On the contrary, Garg (2015), revealed that sustainability reporting has a negative impact on firm value in the short term while it exerts a positive impact on firm value in the long term.

In addition, the study (Emeka-Nwokeji and Osisioma (2019)) revealed that environmental sustainability disclosures have positive significant effect on return on market value of firms in Nigeria during the period of study. This result corroborates earlier research findings (Eze,Nweze and Enekwe (2016); Hussain, 2015; Eccles,Ioannou and Serafeim, 2014), that environmental sustainability positively and significantly impacts both firm value and accounting performance of reporting firms. It is also in harmony with the findings of Makori and Jagongo (2013) that environmental cost has a significant positive effect on the net profit margin and dividend per share. It also agrees with the findings of Cortez and Cudia (2011) that environmental sustainability performance positively and significantly affect revenue generation but exerts an insignificant positive impact on profitability and shareholders' wealth.

In addition, it supports the findings of Wagner (2010) and Clarkson, Li, Richardson and Vasvari (2008) that environmental sustainability reporting has a significant and positive relationship with Tobin's Q. On the other hand, the results negate the findings of Usman and Amran (2015) that environmental disclosures impact both measures of corporate financial performance significantly and negatively. It also invalidates the findings of Mervellskemper, Streit and Bochum (2015) that environmental performance scores negatively impact on market value of equity. Also, it disagrees with the findings of Reddy and Gordon (2010) who found that Environmental sustainability reporting has an insignificant relationship with the abnormal returns of companies.

Finally, Emeka-Nwokeji and Osisioma (2019) reported that an increase in aggregate sustainability disclosure significantly improve market value of listed companies in Nigeria. These findings validate the work of Yu and Zhao (2015) that sustainability indices have a significant and positive relationship with firm value and Reddy and Gordon (2010) that sustainability reporting has statistically significant impact on market returns. However, this result contradicts the finding of Garg (2015) that sustainability reporting impacts ROA and Tobin's Q negatively in the short run and insignificantly on both measures in the long run. It also negates the findings of Mervellskemper, Streit and

Bochum (2015) that environmental, social and governance aspects of sustainability have insignificant effect on market value of equity.

Emeka-Nwokeji & Osisioma(2019) Effiong, Oti and Akpan (2019) established that economic, environmental and social performance disclosures have significant impact on market value added of oil and gas companies in Nigeria. This finding is in line with the works of other researchers (Effiong, Oti & Akpan, 2019; Ekwueme, Egbunike & Onyali, 2013). Nobanee and Ellili (2016) who confirmed that sustainability disclosures have a positive relationship with market value added. On the contrary, Detre and Gunder (2011) found a negative relationship between economic, environmental and social performance disclosures and market value added. Similarly, Jones (2005) found that triple bottom line reporting is strongly and positively associated with return on asset and net profit margin but negatively associate with market value added. Also, Loh, Thomas and Wang (2017) found that sustainability disclosure is positively related to the market value of listed firms in Singapore, and that the relationship would become more strengthened as the quality of sustainability reporting improves.

Gerged and Agwili (2020) found that the relationship between corporate governance and firm market value, proxied by Tobin's Q, varies substantially from a minimum of –0.73 to a maximum of 8.67, with an average of 2.342, in Saudi Arabian firms. They argued that corporate governance mechanisms have a heterogeneous effect on market value of firms in Saudi Arabia. By implication, their findings reveal that, on the average, better-governed Saudi listed companies tend to be characterized with higher market value than their poorly governed counterparts. The results are in harmony with other previous studies on corporate governance in developing countries. Al-Sahafi, Rodrigs and Barnes (2015) confirmed a positive and significant relationship between board size and firm market value proxied by Tobin's Q. Likewise, Davidson and Rowe (2004) concluded that there is no significant and/or negative relationship between independent directors and firm performance.

Furthermore, Mohammadi, Mardani, Khan and Streimikiene (2018) adopted generalized method of moments (GMM) approach to examine the effect of sustainability disclosure on market valuation of firms listed on Tehran Stock Exchange. The study suggested that sustainability disclosure has low effect on market valuation of firms especially those at the non-sensitive industry. Likewise, Dibia and Nwaigwe (2018) investigated the effect of corporate performance on sustainability practices of quoted firms in Nigeria for the period of 2011 to 2015. Corporate performance was measured with return on equity, firm size and earnings per share. The study found that measures of corporate performance has diverse pattern of effect on sustainability practices.

The above literature review revealed that some previous studies found positive and significant relationship between sustainability practices/reporting and market value (Al-Sahafi, Rodrigs & Barnes, 2015; Effiong, Oti & Akpan, 2019; Emeka-Nwokeji & Osisioma, 2019: Gerged & Agwili, 2020; Loh, Thomas & Wang, 2017; Mohammadi, Mardani, Khan & Streimikiene, 2018; Yu & Zhao, 2015). Other studies found negative and insignificant effect of sustainability practices/reporting on market value (Mervellskemper, Streit

and Bochum, 2015; Garg, 2015). Likewise, the studies used only market value (proxy by Tobin`s Q) as a measure of firm value creation (Eze, Nweze & Enekwe, 2016; Hussain, 2015; Gerged & Agwili, 2020; Wagner, 2010).

Methodology

This study employed *ex-post facto* research design. This research design assumes that causal relationships exist among variables that cannot be manipulated by the researcher, there is availability of secondary data for both independent and dependent variables and that the study is panel data study. The adoption of *ex-post facto* research design was because it is suitable for the post review of the sustainability practices of firms and its effect on value creation over time. This research design had been used in previous studies (Emeka-Nwokeji & Osisioma, 2019; Kuzey & Uyar, 2017; Loh & Tan, 2020).

The population of the study consisted 168 quoted companies on the Nigerian Exchange Group (NCX) as of December 31st, 2020. According to the categorization of the NGX as at the end of December 2020, there were 11 sectors in the economy consisting of oil and gas (12 firms), conglomerates (6 firms), financial services (54 firms), information and communication technology (9 firms), services (25 firms), natural resources (4 firms), construction/real estate (9 firms), industrial goods (13 firms), consumer goods (21 firms), health care (10 firms) and agriculture (5 firms). The multistage sampling techniques was adopted for this study. The firm firms where grouped into 11 sectors as provide NGX after this the purposive and judgmental sampling techniques was then applied to select the sampled firms based on the following criteria:

CHAPTER 1: the listed firms on the NGX were grouped into different industry categories

CHAPTER 2: the company must have its annual reports accessible from 2010 to 2020, and

CHAPTER 3: the sustainability reports of the company must also be available either as a part of the annual reports or separately for the period of study.

CHAPTER 4:

Table 1: Number of sampled firms selected from each sector quoted in NGX

S/N	SECTORS	LISTED FIRMS	SAMPLED FIRMS	PERCENTAGE OF SAMPLED FIRMS PER SECTOR
1.	Oil and gas	12	2	17
2.	Conglomerates	6	1	17
3.	Financial services	54	9	17
4.	ICT	9	0	0
5.	Services	25	0	0
6.	Natural resources	4	0	0
7.	Construction/real estate	9	1	11
8.	Industrial goods	13	1	8
9.	Consumer goods	21	9	43

10.	Health care	10	2	20
11.	Agriculture	5	1	20
	Total	168	26	15

Source: Adapted from Nigerian Exchange Group http://www.nse.com.ng/issuers/listed-securities/listed-companies **and researcher`s computation (2022).**

Based on purposive and judgmental techniques, twenty-six (26) firms from the eleven (11) sectors were considered which represents 15% of the universe population of 168 firms consisting of the financial and non-financial sectors. Table 3.1 above gives the sector, the number of firms in each sector as quoted on NGX, the and the number of sampled firms that met the stated criteria.

This study makes use of secondary source of data to examine the effect of sustainability practices on value creation of quoted firms. Secondary source of data will be used to ensure a post review of data already reported. The secondary source of data includes published annual reports and accounts of the sampled companies, separated sustainability reports of sampled firms, websites of Nigerian Exchange Group and published sustainability framework of Global Reporting Initiatives (GRI). For the sustainability practice disclosure index, content analysis will be employed as a tool to analyze the content of annual reports or sustainability reports of the quoted companies in line with Global Reporting Initiative (GRI) sustainability framework as the benchmark.

The approach of Adegbie, Akintoye and Taiwo (2020) and Ching, Gerab and Toste (2017) was adopted to measure the sustainability practices. The approach is such that (a) When all information is disclosed, a score of 1 will be given; (b) when almost all information (that is, above average) is reported, 0.75 will be given; (c) when the information is partially (that is average) reported, 0.5 will be given; (d) when the information is briefly disclosed (that is less than average), 0.25 will be given; and (e) when no information is disclosed, 0 will be scored. With this classification, a final score for each sampled company will be obtained by computing the arithmetic mean of the aggregated indicators of each sub-category and category. This methodology is suitable because it allows each of the information disclosed to have the same weight irrespective of the number of indicators under each aspect and category. This method has been used in prior studies (Adegbie, Akintoye & Taiwo, 2020; Ching, Gerab & Toste, 2017; Mihai, Leontina, Mihai-Bogdan & Iuliana, 2019).

The annual reports and accounts of the listed firms are usually audited before they are published. Therefore, the validity of the annual reports and accounts was secured through audit reports provided by independent auditors to the firms.

The data obtained for this study was collected from audited annual reports and accounts of the sampled companies. According to Companies and Allied Matters Act (CAMA) 2020 (Sections 401-404), companies` financial statement must be subjected to independent audit by an independent auditor who is to examine the financial statement and give his opinion as to the truth and fairness of the accounts. The financial statements was deemed reliable as a result of the independent audit and expression of opinion by the statutory auditor of the companies. Also, the annual

reports and accounts was deemed reliable through the certification and approval obtained from the appropriate regulatory authorities such as Securities and Exchange Commission (SEC) and Nigerian Exchange Group (NSE). Likewise, through the certification by Financial Reporting Council of Nigeria (FRCN) and Central Bank of Nigeria (CBN) in ensuring that necessary reporting standards and regulations are complied with.

The study is based on the following models:

The regression models are: /

$LOG(MV)_{it} = \beta_0 + \beta_1 ECSP_{it} + \beta_2 SOSP_{it} + \beta_3 EVSP_{it} + \beta_4 GOSP_{it} + _{it}$ Model 1a

$LOG(MV)_{it} = \beta_0 + \beta_1 ECSP_{it} + \beta_2 SOSP_{it} + \beta_3 EVSP_{it} + \beta_4 GOSP_{it} + \beta_5 FMS_{it} + _{it}$ Model 1b

Where

MV = Market Value

ECSP = Economic Sustainability Practices

SOSP = Social Sustainability Practices

EVSP = Environmental Sustainability Practices

GOSP = Governance Sustainability Practices

FMS = Firm size

$_{it}$ = Error Term

$_0$ = regression intercept which is constant

β_1 ……. β_4 = represent the coefficient of explanatory variables

β_4 = represent the coefficient of moderating variable

The study is evaluated using the following:

Measurement of Variables

The variables measured in this study are sustainability practices and value creation. Sustainability practices (independent variable) is measured with economic sustainability practices, environmental sustainability practices, social sustainability practices and governance sustainability practices. Value creation (dependent variable) is measured with tobin`s q, price-earnings ratio, market value and total asset. These are shown below:

Table 3.3: Measurement of Variables

Variable	Measurement	Sources
Independent (Sustainability Practices)	Joint effect of economic sustainability, social sustainability, environmental sustainability and governance sustainability.	Agu and Amedu (2018); Ching, Gerab and Toste (2017); Ucheagwu (2019).
Economic Sustainability Practices	The arithmetic mean of the scores for each indicator under economic category.	Agu and Amedu (2018); Ching, Gerab and Toste (2017); Ucheagwu (2019).
Social Sustainability Practices	The arithmetic mean of the scores for each indicator under social category.	Asuquo, Dada and Onyeogaziri (2018); Ucheagwu (2019).
Environmental Sustainability Practices	The arithmetic mean of the scores for each indicator under	Oyedokun, Egberioyinemi and Tonademukaila (2019); Ucheagwu (2019).

	environmental category.	
Governance Sustainability Practices	The arithmetic mean of the scores for each indicator under governance category.	Ching, Gerab and Toste (2013); Ucheagwu (2019)
Dependent (Value Creation)	market dimension, asset dimension and income based dimension of value.	Okpala and Iredele (2018) Shuaibu, Ali and Amin (2019); Mittal and Sandhu (2018).
Market Value	Market capitalization	Shuaibu, Ali and Amin (2019); Kwarbai (2019); Mittal and Sandhu (2018).
Firm Size	Natural logarithm of sales revenue	Mule, Mukras & Nzioka (2015)

Source: Author`s study, 2022.

Results, Data Analysis and Discussion of findings

This study examined the effect of sustainability practices on value creation of quoted firms in Nigeria. To achieve this, the study extracted panel data which were analyzed through descriptive and inferential statistics.

Descriptive Statistics

The descriptive analysis was done through statistical measures such as mean, minimum, maximum and standard deviation. Also, Pearson`s Product Moment Correlation and Variance Inflation Factor (VIF) were employed to examine the degree of association and to determine whether there is multicollinearity problem among the explanatory variables.Also, content analysis will be used as a tool to analyze the information disclosed in the annual reports or separate sustainability reports in line with the approach of Adegbie, Akintoye and Taiwo (2020) and Ching, Gerab and Toste (2017) to produce quantitative scores for the analysis.

In this subsection, the selected variables were described through mean, standard deviation, maximum and minimum. Also, the subsection summarizes the dimensions of sustainability practices (Economic sustainability practices, (EOSP), Social sustainability practices (SOSP), Environmental sustainability practices (EVSP) and Governance sustainability practices (GOSP)) and firm value creation measures (Tobin`s Q (TQ), Price-earnings ratio (PER), Market value (MV) and Total asset (TA)) as well as the control variable (Firm suze (FMS)).

Table 4.1.1: Descriptive Statistics of the Variables

Variable	Mean	Std. Dev.	Min.	Max.
LMV	25.060	1.663	20.95	28.49
FMS	25.124	1.621	19.12	29.07
ECSP	0.351	0.162	0	0.8
SOSP	0.602	0.242	0	1
EVSP	0.332	0.308	0	0.86
GOSP	0.4092	0.307	0.04	1

Source: Author's Output (2022)

Interpretation

Table 4.1.1 shows that, **LMV (Log of Market Value):** The mean value of market value is 25.060, with a standard deviation of 1.663. The mean of 2506% is positive and high, which means that on average, there`s positive market perception of the operation of the sampled firms and the sampled firms offer high investment opportunities. The standard deviation of 166.3% is high, and this depicts the existence of high dispersion in the perception of the investment opportunities of the sampled firms by their shareholders. The minimum value of 20.95 and maximum value of 28.49 indicate that there is a wide gap in the degree of investment opportunities among quoted firms. This implies that some firms have possessed low potential investment opportunities, while others possessed great potential investment opportunities.

FMS: The mean is 25.124 and the standard deviation is 1.621. The mean of 2512% is high and it shows that on the average, the sampled firms have been experiencing increase in their size in terms og revenue over time. The standard deviation of 162% is high and indicates a wide gap in size among the sampled firms. This is supported with the minimum value of 19.12 and a maximum value of 29.07.

ECSP: The mean value is 0.351, and the standard deviation is 0.162. This indicates that on the average the sampled firms practices 35% of the disclosure requirements of economic sustainability dimension contained in GRI4 guidelines. The value is relatively low, which means that the economic sustainability practice of quoted companies in Nigeria is below average. The standard deviation of 16.2% shows that the level of variation in practices of economic sustainability among Nigerian firms is relatively low. The minimum value of 0 (zero) and the maximum value of 0.8 shows that some companies do not practice economic sustainability while other firms embark on high pracrice of economic sustainability.

SOSP: The mean value is 0.602 and the standard deviation is 0.242. This means that on the average, the sampled firms practice about 60.2% of the requirements of social sustainability as contained in the GRI4 guideline. This value is relatively above average and implies that the social sustainability practices of quoted companies in Nigeria are high and above average. The standard deviation of 24% shows that the level of variation in practices of social sustainability among Nigerian firms is relatively low. The minimum value of 0 (zero) and the maximum value of 1 (one) implies that some quoted companies in Nigeria do not practice social sustainability while others practice it fully.

EVSR: The mean value is 0.332, and the standard deviation is 0.308. The mean value of 33.2% means that averagely, the sampled firms practiced environmental sustainability to the tune of about 33.2% in accordance with the GRI4 guidelines. The value is relatively low, which means that the environmental sustainability practice of quoted companies in Nigeria is below average. The standard deviation of 30% shows that the level of divergence in practicing environmental sustainability is relatively low among quoted companies. The minimum value of 0 (zero) and maximum value of 0.86 connotes that some quoted companies in Nigeria do not practice environmental sustainability while

environmental sustainability practices is high in other companies.

GOSP: The mean value is 0.4092 and standard deviation is 0.307. The mean value of 40% implies that averagely, the sampled companies practice governance sustainability to the tune of 40% by the GRI4 guidelines. The value is relatively low, which means that the governance sustainability practice of quoted companies in Nigeria is below average. The standard deviation of 30.7% shows that the level of divergence in practicing governance sustainability is relatively low among quoted companies. The minimum value of 0.04 and maximum of 1 implies that some quoted companies in Nigeria minimally practice governance sustainability while others practice it fully.

Inferential Statistics

Multiple regression analysis was employed to determine the magnitude of the effect of sustainability practices on measures of value creation. The panel regression models were estimated by using fixed effect, random effect or pooled OLS depending on the assumptions about the distribution of the unobserved components and the asymptotic properties of t and i. The p-value of the Hausman test was the determinant for the selection between the fixed effect model and random effect model. Also, adjusted r-square was used to explain the degree to which sustainability practices is responsible for the variation in the measures of value creation.

Diagnostic tests conducted include heteroskedasticity test, cross-sectional dependence test and serial correlation test using Modified Wald test, Pesaran CD test, and Wooldridge test to determine whether the residuals of the models are constant over time (Baltagi, 2015). The diagnostic tests will help to determine if there are issues of dependence across the residuals of the model and to determine the appropriate analytical method to employ to assess the degree of relationship between the dependent and independent variables.

Correlation Analysis of the Variables

This subsection discusses the relationship that exists among the variables of the study to determine whether an unhealthy association (multicollinearity) exists among them. A correlation analysis and Variance Inflation Factor (VIF) test were carried out for the variables (Tobin`s Q (TQ), Price-earnings ratio (PER), Market value (MV), Total assets (TA), Economic sustainability practices (EOSP), social sustainability practices (SOSP), environmental sustainability practices (EVSP), governance sustainability practices (GOSP) and firm size (FMS)).

Table 4.1.2: Multicollinearity Test

Variable	LMV	FMS	ECSP	SOSP	EVSP	GOSP	VIF	1/VIF
TQ								
PER								
LMV	1.00							
LTA	0.575							
FMS	0.723	1.00					1.18	0.840

ECSP	0.34	0.2	1.00				1.35	0.74
SOSP	0.42	0.2	0.43	1.00			2.22	0.45
EVSP	0.42	0.2	0.35	0.67	1.00		2.56	0.39
GOSP	0.44	0.3	0.47	0.69	0.74	1.00	3.01	0.33
							Mean= 2.06	

Source: Author's output (2022).

Interpretation

Using correlation matrix to discover the existence of multicollinearity among the variables, the results with the least value of 0.02 and the highest value of 0.74 which are less than the benchmark of 0.8 (Baltagi, 2021) revealed that multicollinearity problem does not exists among the explanatory variables. Also, the results of the Variance inflation factor supports the results derived from the correlation matrix, as VIF showed a mean of 2.06 which is relatively lower than the threshold of 5 or 10 (James, Witten, Hastie, & Tibshirani, 2017); Therefore, this study concluded that multicollinearity problem does not exists among the explanatory variables.

Table 4.2.3: Test of Hypothesis (without and with control variable)

	Without Control Variable				**With Control Variable**				Difference	
	Fixed-effects Regression with Cluster Std. Err				Pooled OLS (Prais-Winsten AR(1) regression)				Coef	Prob
Variable	Coeff	Std. Err	T-Stat	Prob	Coeff	Std. Err	T-Stat	Prob		
Constant	24.895	0.219	113.6	0.000	10.895	2.074	5.25	0.000		
ECSP	0.498	0.592	0.84	0.400	-0.005	0.661	-0.01	0.994	+/-. Dec.	Insig/Insig
SOSP	-0.256	0.382	-0.67	0.504	0.386	0.510	0.76	0.450	-/+. Inc.	Insig/Insig
EVSP	-0.836	0.376	-2.22	0.027	0.183	0.451	0.40	0.686	-/+. Inc.	Insig/Insig
GOSP	1.030	0.465	2.21	0.028	0.242	0.537	0.45	0.653	+/+. Dec.	Insig/Insig
FMS					0.550	0.084	6.51	0.000		
Adj. R^2	0.03				0.074				Inc	
F-Stat/Wal	1.96 (0.102)				36.48 (0.00)					Insig/Sig
Hausman	31.16 (0.000)				94.51 (0.00)					
Testpar	2.16 (0.02)				1.75 (0.07)					
Heterosk	3658.74 (0.00)				2.61 (0.11)					
Serial Correlati	16.572 (0.00)				13.388 (0.00)					
Cross-Sect. Dep	-1.430 (0.153)									

Source: Author's output (2022)

Interpretation **Diagnostic Tests**

The probabilities of the Hausman tests for both model of 0.0000 and 0.0000 which are less than the chosen significant level of 5 per cent level negate the null hypothesis of Hausman test which states that "there is no fixed effect" thus, fixed effect is more appropriate than Random effects for both models. Also, the Testparm carried with ρ-value of 0.02, being less than the 5 per cent level justified the results of the Hausman tests and proved that fixed effects techniques is the best for estimating the model. However, the Testparm carried out for model with ρ-value of 0.07, being greater than the 5 per cent level negates the results of the Hausman tests and proved that pooled OLS regression is the best for estimating the model.

The results of the heteroskedasticity tests conducted for the first model without control using Breusch-Pagan/Cook-Weisberg Test with ρ-values of 0.00 and 0.11 indicated the presence of heteroskedastic, that's residuals of the model varied over time while heteroskedastic is absence in the model with control. The existence of associations among the coefficients of the model and its residuals were tested using the Wooldridge test for serial correlation was carried out to know if there is a serial correlation problem in the model and the results with ρ-values of 0.00 and 0.00 imply that both models do possess serial correlation problem. Lastly, the cross-sectional dependence test was conducted and the probability value of 0.153 which means that the model have cross-sectional dependence problems.

Based on the results of the Hausman tests, Testparm, heteroskedasticity test, cross-sectional dependence and autocorrelation tests conducted, both Models are estimated using Fixed effects Regression with Driscoll-Kraay standard errors to correct for observed issues.

$LMV_{it} = \alpha_0+\alpha_1ECSP_{it} + \alpha_2SOSP_{it} + \alpha_3EVSP_{it} + \alpha_4GOSP_{it} + \varepsilon_{it}$..... Model 1

$LMV_{it} = \alpha_0 + 0.498ECSP_{it} - 0.256SOSP_{it} - 0.836EVSP_{it} + 1.030GOSP_{it} + \varepsilon_{it}$.....Model 1

Interpretation

As depicted in Table 4.1.2, the probability values of the t-test revealed that ECSP (p=0.400) and SOSP (p=0.504) have insignificant effect on market value (MV), while EVSP and GOSP significantly affect MV (EVSP: p=0.027; GOSP: p=0.028). Considering the coefficients of the explanatory variables; SOSP (α = -0.256); and EVSP (α = - 0.836) indicate that SOSP, and EVSP negatively affect MV while ECSP (α = 0.498); and GOSP (α = 1.030) has positive effect on MV. The magnitude of the effect is expressed in the actual value of the coefficients; thus, an increase in the extent of social and environmental sustainability practices by the firms will result to 0.256 and 0.836 per cent decrease in the market value respectively. Contrarily, the more the firm practices economic and governance sustainability there is 0.498 and 1.030 per cent increase in market value. The explanatory powers of the independent variables reflect that the joint variations in the independent variables yield 3% variation in the market value (MV), while the remaining 97% changes in MV is caused by other factors outside the scope of this model. In addition, as the magnitude of joint effect is extremely low; the probability of the F-test (ρ-value of 0.102) showed that sustainability practices does not significantly affect MV of companies listed in Nigeria.

Model

$LMV_{it} = \alpha_0+\alpha_1ECSP_{it} + \alpha_2SOSP_{it} + \alpha_3EVSP_{it} + \alpha_4GOSP_{it} + \alpha_5FMS_{it} + \varepsilon_{it}$.....Mode2

$LMV_{it} = \alpha_0 - 0.005ECSP_{it} + 0.386SOSP_{it} + 0.183EVSP_{it} - 0.450GOSP_{it} + 0.550FMS_{it} + \varepsilon_{it}$ Mode2

Interpretation

In the model, contrary results were obtained after the inclusion of firm size (FMS) into the model as a control variable. The inclusion of FMS enhances the impact of SOSP from -0.256 to 0.386 and that of EVSP from -0.836 to 0.183; while diminishes the impact of ECSP from 0.498 to -0.005 and that of GOSP from 1.030 to -0.450. The coefficients of the explanatory variables in Model six means that an increase in practicing social sustainability and environmental sustainability will lead to a increase of 0.386% and 0.183% in market value respectively. However, a decrease in practice of economic sustainability and governance sustainability will yield an increase of 0.005% and 0.450% in market value (MV).

Also, the probability values of the t-test revealed that ECSP (p=0.994), SOSP (p=0.450), EVSP (p=0.686) and GOSP (p=0.653) all have insignificant effect on market value (MV). Contrarily, firm size with $\alpha = 0.550$ and p=0.000 indicates that it has positive significant effect on market value (MV).

The explanatory powers of the independent variables reflect that the joint variations in the independent variables yield 7.4% variation in the MV, while the remaining 92.6% changes in MV is caused by other factors outside the scope of this model. Although, the magnitude of joint effect is extremely low; however, the probability of the F-test (ρ-value of 0.00) showed that firm size significantly controls the effect of sustainability practices on market value of companies listed in Nigeria.

Decision

Judging from the chosen significant level of this study which is 5 per cent, the probability of the F-test of 0.102 being greater than the chosen level of significance; this study do not reject the null hypothesis which states that sustainability practices have no significant effect on market value of companies listed on the Nigerian Exchange Group, and thus reject the alternate hypothesis; that sustainability practices have significant effect on MV of companies listed on the Nigerian Exchange Group. Also, the probability of the F-test of 0.0000 for model six being less than the chosen level of significance; this study concluded that firm size significantly control the effect of sustainability practices on market value of listed companies in Nigeria.

Discussion

The result of model five shows that sustainability practices (economic, social, environmental and governance) do not have significant effect on market value of listed firms in Nigeria. Based on the *a priori* expectation for this objective, a positive and significant effect was expected, however, the study indicates that sustainability practices have not been priced-in by market participants in determining the market value of the firm. Thus, indicating that more attentions are given to financial performance of firms in determining their worth. This findings align with the value destroying theory that holds that carrying on ethically concerned activities and not targeting profit making could impair the objective of maximizing shareholders` wealth.

Hence, exerting efforts and costs in sustainability practices could serve as distraction to management of firms in maximizing shareholders` wealth (market value). The findings support the view of Yu and Zhao (2015) that revealed that

sustainability practices are not cost effective hereby decreasing the market value of firms in Nigeria. In the same vein, Emeka-Nwokeji and Osisioma (2019) found an insignificant effect of sustainability practices on market value of firms. Likewise, Stacchezzini, Melloni and Lai (2016) suggested that sustainability practices/reporting have insignificant effect on market value of firms as it is insufficiently accounted for and documented.

However, Effiong, Oti and Akpan (2019) established that economic, environmental and social performance disclosures have significant impact on market value added of oil and gas companies in Nigeria. Also, Emeka-Nwokeji and Osisioma (2019) and Okpala and Iredele (2018) revealed a significant effect of sustainability practices/reporting on market value. Their findings support value creation theory and implies that by practicing sustainability in line of its four dimensions, there will be value created and enhanced by the firm. This is due to the ability of the firm to present itself as more responsible one among its peers thereby, enhancing it reputation.

Conclusion and Recommendation

This study has analyzed the interaction of sustainability practices/reporting on market value of firm listed on the Nigeria Exchange group, therefore, the study concluded that various dimensions of sustainability practices reacted in various ways to market value of sampled firms, firms' size has a significant control on this interaction. The study recommended that companies listed on the Nigerian Exchange Group should engage in full sustainability practices vis-à-vis governance, social, environmental and economic sustainability practices to enjoy positive valuation in the market thereby improving market value. The study also recommended that market participants should consider proxies of sustainability in the determination of offer and bid price.

References

Adegbie, F. F., Akintoye, I. R., & Taiwo, O. J. (2020). Sustainability reporting: Imperative for turnover growth. *Asian Journal of Economics, Business and Accounting, 16*(1), 8-18.

Aggarwal, P. (2013). Sustainability reporting and its impact on corporate financial performance: A literature review. *International Journal of Commerce and Management Studies, 4*(3), 51-59.

Agu, S. I., & Amedu, J. M. A. (2018). Relevance of sustainability disclosure to profitability of listed pharmaceutical firms in Nigeria. *International Journal of Scientific & Engineering Research, 9*(11), 1195-1201.

Ahmed, A., & Ahmed, D. (2018). The impact of social, environmental and corporate governance disclosures on firm value Evidence from Egypt. *Journal of Accounting in Emerging Econoies, 8*(4), 442-458.

Al-Sahafi, A., Rodrigs, M. & Barnes, L. (2015). Does corporate governance affect financial performance in banking sector? Evidence from Saudi Arabia.*International Journal of Economics, Commerce, and Management*, *3*(3), 1–26.

Al-Slehat, Z. A. F., Zaher, C., Fattah, A., & Box, P. O. (2020). Impact of financial leverage, size and assets structure on

firm value: Evidence from industrial sector, Jordan. *International Business Research*, *13*(1), 109-120.

Asuquo, .A. I., Dada, E. T., & Onyeogaziri, U. R. (2018). The effect of sustainability reporting on corporate performance of selected quoted brewery firms in Nigeria. *International Journal of Business & Law Research, 6*(3), 1-10.

Azaro, K., Djajanto, L., & Sari, P. A. (2020). The influence of financial ratios and firm size on firm value. *Advances in Economics, Business and Management Research, 13*(6), 142-146.

Bambang, S., Sebastian, K., Arum, K., & Lina, N. (2018). Sustainability Reporting and Value Relevance of Financial Statements. *Sustainability, 10*, 1-14.

Banerjee, A., Gokarn, S., Pattanayak, M., & Sinha, S. K. (2009). Corporate governance and market value: Preliminary evidence from Indian companies. *Standard and Poor's Financial Services LLC*, *12*(2), 42-77.

Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. *Strategic Organization*, *12*(1), 70-78.

Bassen, A., Meyer, K. &Schlange, J. (2006). The influence of corporate responsibility on the cost of capital - An empirical analysis in possession of *Journal of Economic Literature*, http://ssrn.com/abstract=984406

Baumgartner, R. J., & Ebner, D. (2010). Corporate sustainability strategies: sustainability profiles and maturity levels. Sustainable Development, 18(2), 76-89.

Basiago, A. D. (1998). Economic, social, and environmental sustainability in development theory and urban planning practice. Environmentalist, 19(2), 145-161.

Buallay, A., Hamdan, A. , & Barone, E.. (2019). Sustainability reporting and firm's performance: Comparative study between manufacturing and banking sectors. *International Journal of Productivity and Performance Management*. 2(1), 1-16.

Buallay, A. M. (2020). The Level of sustainability reporting and its impact on firm performance: The moderating role of a country's sustainability reporting law. A PhD thesis of Brunel University, London.

Bubbico, R., Giorgino, M., & Monda, B. (2012). The impact of Corporate Governance on the market value of financial institutions: empirical evidences from Italy. *Banks and Bank Systems*, *7*(2).

Burhan, A.H.N., Rahmanti, W. (2012). The impact of sustainability reporting on company performance. *Journal of Economics, Business, and Accountancy Ventura*, 15(2), 257-272.

Bussoli, C. (2019). Does it pay to be sustainable? Evidence from European banks. *Int. J. Bus. Manag*, *14*, 128-146.

Carrots & Sticks. (2013), Promoting Transparency and Sustainability: An update on trends in Voluntary and Mandatory Approaches to Sustainability Reporting. Retrieved on 20th July, 2021 from https://www.globalreporting.org/resourcelibrary/carrots-and-sticks.pdf

Coleman, M., & Wu, M. (2020). Corporate governance mechanisms and corporate performance of firms in Nigeria and Ghana. *International Journal of Productivity and Performance Management*.

Cortez, M. A. A., & Cudia, C. P. (2011). The virtuous cycles between environmental innovations and financial performance: Case study of Japanese automotive and electronics companies. *Academy of Accounting and Financial Studies Journal*, *15*(2), 31.

Dam, L. & Petkova, B.N. (2014). The impact of environmental supplychain sustainability programs on shareholder wealth.*International Journal of Operations & ProductionManagement*, 34(5), 586-609.https://doi.org/10.1108/IJOPM-10-2012-0482

Dang, H. N., Vu, V. T. T., Ngo, X. T., & Hoang, H. T. V. (2019). Study the impact of growth, firm size, capital structure, and profitability on enterprise value: Evidence of enterprises in Vietnam. *Journal of Corporate Accounting & Finance*, *30*(1), 144-160.

Dang, H. N., Pham, C. D., Nguyen, T. X., & Nguyen, H. T. T. (2020). Effects of corporate governance and earning quality on listed Vietnamese firm value. *The Journal of Asian Finance, Economics, and Business*, *7*(4), 71-80.

Daniel, A. U., Ejiofor, E. O., Anumege, S., & Campus, O. (2021). Effect of corporate social responsibility on price earnings ratio of consumer goods firms in Nigeria.

Davidson, W. and Rowe, W. (2004). Intertemporal endogeneity inboard composition and financial performance. *Corporate Ownership and Control* 1(4), 49–60.

Dembo, A. M. (2017). The impact of sustainability practices on the financial performance: Evidence from listed oil and gas companies in Nigeria. In *Dimensional Corporate Governance*(pp. 215-233). Springer, Cham.

Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. Sustainable development, 19(5), 289-300.

Department for Environment, Food and Rural Affairs (2006). *Environmental key performance indicators: Reporting guidelines for UK business.* Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69281/pb11321-envkpi-guidelines-060121.pdf

Detre, J. D., & Gunder, M. A. (2011). The triple bottom line: What is the impact on the returns to agribusiness? *International Food and Agribusiness Management Review*, 14(4), 165-178.

Dibia, N. O., & Nwaigwe, N. G. (2018). Sustainable Development Practices and Corporate Financial Performance: A Survey of Selected Quoted Companies in Nigeria. *Asian Journal of Economics, Business and Accounting*, 1-13.

Djazuli, A., Choiriyah, C., & Anggraini, N**.** S. (2019).The Impact of company size,

asset structure and profitability on capital structure of the automotive sector companies listed in Indonesia stock exchange. *Journal of Management Research, 11*(2), 21-36.

Dybvig, P. H., & Warachka, M. (2015). Tobin's q does not measure firm performance: Theory, empirics, and alternatives. *Empirics, and Alternatives (March 5, 2015)*.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, *60*(11), 2835-2857.

Effiong, S. A., Oti, P. A., and Akpan, D. C. (2019). Triple bottom line reporting and shareholders' value in oil and gas marketing firms in Nigeria. *Academy of Accounting and Financial Studies Journal*, *23*(5), 1-16.

Egbunike, C.F., & Odum, A.N (2018). Board leadership structure and earnings quality: Evidence from quoted manufacturing firms in Nigeria. *Asian Journal ofAccounting Research, 3* (1), 82-111.

Ehrhardt, M. C., & Brigham, E. F. (2011). *Corporate finance: A focused approach* (4th ed.). Mason: South-Western.

Ekwueme, C. M., Egbunike, C. F., &Onyali, C. I. (2013). Benefits of triple bottom line disclosures on corporate performance: An exploratory study of corporate stakeholders. *J. Mgmt. & Sustainability*, *3*, 79.

Emeka-Nwokeji, N. A., & Osisioma, B. C. (2019). Sustainability disclosures and market value of firms in emerging economy: Evidence from Nigeria. *European Journal of Accounting, Auditing and Finance Research, 7*(3), 1-19.

Emudainohwo, O. B. (2017). Determinants of price-earnings ratio: Nigerian experience (Quantile regression). *International Journal of Economics, Business and Management Research*, *1*(5), 46-76.

Erhinyoja, E. F., & Marcella, E. C. (2019). Corporate Social Sustainability Reporting (CSR) and financial performance of oil and gas industry in Nigeria. *International Journal of Accounting, Finance and Risk Management*, *4*(2), 44-60.

Eze, J. C., Nweze, A. U., &Enekwe, C. I. (2016). The effects of environmental accounting on a

Finance Research, 4(1), 17-27.

Fallatah, Y., & Dickins, D. (2012). Corporate governance and firm performance and value in Saudi Arabia. *African Journal of Business Management*, *6*(36), 10025-10034.

Garg, A. K. (2007). Influence of board size and independence on firm performance: A study of Indian companies. *Vikalpa*, *32*(3), 39-60.

Garg, P. (2015). Impact of sustainability reporting on firm performance of companies in India. *International Journal of Marketing and Business Communication*, *4*(3), 38-45.

Global Reporting Initiative (GRI) G4 (2015). *Sustainability reporting guideline.*

Gherghina, S. C., Vintilă, G., & Dobrescu, D. (2015). An empirical research on the relationship between corporate

social responsibility ratings and U.S. listed companies value. *Journal of Economics Studies and Research, 20*(15), 1-11.

Gull, A. A., Saeed, A., & Abid, A. (2013). Corporate governance and performance: An empiricalevidence from textile sector of Pakistan. *African Journal of Business Management*, *7*(22), 2112-2118.

Hardiningsih, P., Januarti, I., Yuyetta, E. N. A., Srimindarti, C., &Udin, U. (2020). The effect of sustainability information disclosure on financial and market performance: Empirical evidence from Indonesia and Malaysia. *International Journal of Energy Economics and Policy*, *10*(2), 18.

Hasan, M. M., Parven, T., Khan, S., Mahmud, A., &Yajuan, L. (2018). Trends and impacts of different barriers on Bangladeshi RMG industry's sustainable development. *International Research Journal of Business Studies*, *11*(3), 245-260.

Hidayah, N. (2014). The effect of company characteristics toward firm value in the property and real estate company in Indonesia Stock Exchange. *International Journal of Business, Economics and Law*, *5*(1), 1-8.

Jones, S. (2005). Notes of the University of Sydney Pacioli Society. *Abacus*, 41(2), 211-216.

Khlif, H., Guidara, A., & Souissi, M. (2015). Corporate social and environmental disclosure and corporate performance: Evidence from South Africa and Morocco. *Journal of Accounting in Emerging Economies*.

KPMG (2017). *The KPMG Survey of corporate responsibility reporting.* Retrieved on 4thOctober, 2019 from https://home.kpmg/content/dam/kpmg/campaigns/csr/pdf/CSR Reporting_2017.pdf

Kuzey, C., & Uyar, A. (2017). Determinants of sustainability reporting and its impact on firm value: Evidence from the emerging market of Turkey. *Journal of cleaner production*, *143*, 27-39.

Lawal, B. (2012). Board dynamics and corporate performance: Review of literature and empirical challenges. *International Journal of Economics and Finance 4*(1).

Lizińska, J., & Czapiewski, L. (2018). Towards Economic Corporate Sustainability in Reporting: What Does Earnings Management around Equity Offerings Mean for Long-Term Performance?. *Sustainability*, *10*(12), 4349.

Loh, L., Thomas, T., & Wang, Y. (2017). Sustainability reporting and firm value: Evidence from Singapore listed companies. *Journal of Sustainability, 9*(5), 1-12.

Loh, L., & Tan, S. (2020). Impact of sustainability reporting on brand value: An examination of 100 leading brands in Singapore. *Sustainability*, *12*(18), 1-17.

Makori, D. M., & Jagongo, A. (2013). Environmental accounting and firm profitability: An empirical analysis of selected firms listed in Bombay Stock Exchange, India. *International Journal of Humanities and Social Science*, *3*(18), 248-256.

Mervellskemper, L., Streit, D., & Bochum, R. (2015). Investors' perception of ESG performance: Is integrated reporting keeping its promise?. Retrieved on 3rd January, 2020 from http://www.ssrn.com/abstract=2625044

Mihai, C., Leontina, P., Mihai-Bogdan, A., & Iuliana, E. G. (2019). Is sustainability reporting a business strategy for firm's growth?: Empirical study on the Romanian capital market. *Journal of Sustainability, 11*(658), 1-21.

Mittal, A., & Sandhu, N. (2018). To investigate the relationship between CSR of companies and their market valuation (equity valuation): Northern India. *Journal of Advances and Scholarly Researches in Allied Education, 15*(3), 120-128.

Mohammadi, M. A., Mardani, A., Khan, K. A., & Streimikiene, D. (2018). Corporate sustainability disclosure and market valuation in a Middle Eastern Nation: Evidence from listed firms on the Tehran Stock Exchange: Sensitive industries versus non-sensitive industries. *Economic Research, 31*(1), 1488–1511.

Muhammad, A. I. (2014). Sustainability reporting among Nigeria food and beverages firms. *International Journal of Agriculture and Economic Development, 2*(1), 1-2.

Muhammad, K. M., Modu, B. B., & Abdullahi, I. (2021). The role of dividend policy in determining the market value of share of listed industrial goods companies in Nigeria. *International Journal of Advanced Studies in Business Strategies and Management | (IJASBSM), 9*(1)*,* 7-19.

Mule R K, Mukras M. S., Nzioka O. M. (2015) Corporate size, profitability and market value: An econometric panel analysis of listed firms in Kenya. *European Scientific Journal 11*(1), 376-396.

Nejla, O. D. (2020). Environmental, Social, and Governance Disclosure, Ownership Structure and Cost of Capital: Evidence from the UAE. *Sustainability, 12*, 1-23.

Nigerian Exchange Group (NSE) (2016). *Sustainability disclosure guideline.* Retrieved on 30th May, 2019 fromhttp://www.nse.com.ng/regulationsite/IssuersRules/Sustainability%20Disclosure%20Guidelines.pdf

Nnamani, J. N., Onyekwelu, U. L., & Ugwu, O. (2017). Effect of sustainability accounting and reporting on financial performance of firms in Nigeria brewery sector. *European Journal of Business and Innovation Research*, 5(1), 1-15.

Nobanee, H., & Ellili, N. (2016). Corporate sustainability disclosure in annual reports: Evidence from UAE banks: Islamic versus conventional. *Renewable and Sustainable Energy Reviews*, *55*, 1336-1341.

Okpala, O. P., & Iredele, O. O. (2018). Corporate social and environmental disclosures and market value of listed firms in Nigeria. *Copernican Journal of Finance & Accounting, 7*(3), 9–28.

Olayinka, A. O., & Oluwamayowa, I. O. (2014). Corporate environmental disclosures and market value of quoted companies in Nigeria. *The*

Business and Management Review, *5*(3), 171.

Oraka, A. O. (2021). Environmental costs and financial performance of oil and gas companies in Nigeria. *Research Journal of Management Practice| ISSN*, *2782*, 7674.

Oyedokun, G., Egberioyinemi, E., & Tonademukaila, A. (2019). Environmental accounting disclosure and firm value of industrial goods companies in Nigeria. *Journal of Economics and Finance, 10*(1), 7-27.

Reddy, K., & Gordon, L. W. (2010). The effect of sustainability reporting on financial performance: An empirical study using listed companies. *Journal of Asia Entrepreneurship and Sustainability*, 6(2), 19-42.

Reschiwati, R., Syahdina, A., & Handayani, S. (2020). Effect of liquidity, profitability, and size of companies on firm value. *Utopía y Praxis Latinoamericana*, *25*(6), 325-332.

Setiadharma, S., & Machali, M. (2017). The effect of asset structure and firm size on firm value with capital structure as intervening variable. *Journal of Business & Financial Affairs*, *6*(4), 1-5.

Shuaibu, K., Ali, I., & Amin, I. M. (2019). Company attributes and firm value of listed consumer goods companies in Nigeria. *Journal of Research in Humanities and Social Science, 7*(5), 40-49.

Taiwo, O.J., Owolabi, B. A., Adedokun, Y., & Ogundajo, G. (2021). Sustainability reporting and market value growth of quoted companies in Nigeria. *Journal of Financial Reporting and Accounting, 19*(1), 100-120.

Tharshiga, P., & Velnamby, T. (2017). An analysis of dividend policy and market value of listed manufacturing companies in Sri Lanka. *International Journal of Scientific & Engineering Research, 8*(6), 214-222.

Tiamiyu, A. M. & Oyekunle, O. F. (2021). *Firms characteristics and sustainability reporting of listed manufacturing companies in Nigeria.* Conference Paper.thar

Ucheagwu, C., Akintoye, I. R., & Adegbie, F. F. (2019) Impact of Environmental Sustainability Practices on Financial Performance of Listed Firms in Nigeria. International Journal of Scientific & Engineering Research, 10(3), 1333-1342.

Usman, A. B., & Amran, N. A. B. (2015). Corporate social responsibility practice and corporate financial performance: evidence from Nigeria companies. *Social Responsibility Journal*.

Uwuigbe, O. R. (2011). An empirical investigation of the association between firms' characteristics and corporate social disclosures in the Nigerian financial sector. *Journal of Sustainable Development in Africa*, *13*(1), 60-74.

Uwuigbe, U., Obarakpo, T., Uwuigbe, O. R., Ozordi, E., Asiriuwa, O., Gbenedio, A. E., & Taiwo, O. S. (2018). Sustainability reporting and firm performance: A bi-directional approach. *Academy of Strategic Management Journal*, *17*(3), 2.

Wagner, M. (2010). The role of corporate sustainability performance for economic performance: A firm-level

analysis of moderation effects. *Ecological Economics*, *69*(7), 1553-1560.

Wang, J., Zhang, Y., & Goh, M. (2018). Moderating the role of firm size in sustainable performance improvement through sustainable supply chain management. *Sustainability*, *10*(5), 1654-1676.

Yu, M., & Zhao, R. (2015). Sustainability and firm valuation: An international investigation. *International Journal of Accounting and Information Management*, 23(3), 289-307.