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IMPACT OF SUSTAINABILITY PRACTICES DIMENSIONS ON TOTAL ASSETS OF LISTED FIRMS ON NIGERIAN EXCHANGE GROUP

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Abstract

This study investigated the Impact of Sustainability Practices dimensions on total assets of listed Firms on Nigerian Exchange Group. Specifically the study focused on book value of current and non-current asset in the statement of financial position at year end for the selected firms and period. This study used a static panel data, multistage sampling technique was adopted to pick samples of 26 firms from the population of 168 firms listed on the Nigeria exchange as at December 31,2020. Findings revealed that proxies of sustainability practices dimensions reacted differently to total asset of sampled firms. ECSP (P=0.015) and EVSP (P=0.022) have a significant effect on total asset (TA), while SOSP and GOSP insignificantly affect TA (SOSP: p=0.426; GOSP: P=0.684). Considering the coefficients of the explanatory variables; ECSP (α = 2.199); SOSP (α = 0.193); and EVSP (α = 0.551); GOSP ($\alpha = -0.141$) The study concluded that that ECSP, SOSP, and EVSP positively affect TA while GOSP has a negative effect on TA. Also, firm size provides significant controlling effect on the interactions. Overall sustainability practices have a significant impact on total asset values of listed firms on the Nigeria Exchange with and without the control of firm size.

The study recommended that the management of firm listed on the Nigeria Exchange should fully engage in sustainability practice to enjoy appreciation in total asset.

Keywords: Total Assets; Sustainability; Nigeria Exchange Group; Sustainability Practices

Introduction

Sustainability as a term has been used in several ways. Sustainability has been commonly used as sustainability development (Dembo, 2017). Series of international conferences was held between 1972 and 1992 which led to the development of theoretical framework for sustainability development. The conferences were held to review the progresses made. Despite the various confusions at the development and implementation level of sustainability, World Bank (2010) affirms its commitment to sustainable globalization. Likewise, International Monetary Fund (IMF) (2010) affirms its commitment to sustainable economic growth. The term sustainability, corporate social responsibility (CSR) and triple bottom line are often used interchangeably (Bäckström & Karlsson, 2015). However, a major difference between them is their relation to time. Bansal and DesJardine (2014) opined that a sustainable business is a business "that manage inter-temporal tradeoffs in strategic decision making, so that both the short and long-term is considered".

Sustainability development has been defined by World Council for Economic Development (WCED) as "meeting the needs of the present without compromising the ability to meet the needs of future generations". Anekwe, Ndubusi-Okolo and Uzoezie (2019) opined that sustainability is the approach adopted by entities to create real and true value for themselves and for the resources used to create the value. Also, Szczepankiewicz and Mućko (2016) defined sustainability practices as the overall socio-economic development of an entity that integrates political, environmental, social and economic objectives. Dibia and Nwaigwe (2018) posited that firms practices sustainability in such a way that economic relationships focus on two priorities of: balancing human use of the environment with the regenerative capacity of the ecosystem, and allocating the natural capital available in such a way that allow everyone have the opportunity to fulfill their development.

Najul (2016) opined that corporate sustainability is a comprehensive approach that encompasses social, environmental, economic and governance components. According to Ahmed and Ahmed (2018), corporate sustainability practices serves as source of opportunity, innovation and competitive advantage. Likewise, Atanda, Osemene and Ogundana (2021) defined sustainability practices to involve sets of processes, issues and values that firms address to reduce the harmful effects of their activities. Buallay (2020) opined that sustainability practices is the activities of firms aimed at meeting the environmental, social and economic needs of present without compromising the ability of present generations and ensuring that the needs are met through the adoption of corporate governance practices. Therefore, Sustainability practices is refers to as activities of firms to ensure the existence of such organisations can stand the test of time through economic sustainability, social sustainability, environmental sustainability and governance sustainability.

Over time, the concept of sustainability has been broadened to include environmental, social, economic and governance considerations (Dembo, 2017). The considerations or dimensions indicate that organisations do not have just a single goal of economic value but encompasses others to ensure a sustainable future.

According to Epstein (2008) and Dembo (2017), there are lots of benefits an organization could derive by practicing sustainability which include: lower administration cost, reduced operating costs, lower capital costs, increased revenue, stock market premium, product innovation, increased customer satisfaction, new market opportunities, increased market share, reduced cycle times, improved reputation, waste minimization, employee satisfaction, improved productivity gains, improved stakeholder relationship and reduced risk.

The literature reviewed revealed that there's paucity of studies that have examined the effect of sustainability practices/reporting on total assets. However, existing studies have only considered separately the effect of individual dimensions of sustainability on total assets, such as corporate social responsibility and corporate governance (Abdulrahman, 2014; Hajar & Hoseyn, 2015; Kiran, 2015; Roszkowska-Menkes, 2016). Examine the effect of sustainability practices on total asset of listed firms on Nigerian Exchange Group.

Review of Literature

Total Asset

Hibiki and Managi (2010), opined that a firm's value can be broken down into its tangible and intangible assets. Tangible assets consist of the replacement value of property, plant and equipment, cash, inventory, etc. Intangible assets are factors of production or specialized resources that allow the firm to earn profits over and above the return on its tangible assets. Common examples of intangible assets are patents, trademarks, proprietary raw material sources, brand names, and firm goodwill. Again, Alvi and Ikram (2015) described assets as economic resource in financial accounting.

Hutahaean (2020) defined asset turnover as the income generated from both the current and fixed assets belonging to the company. A company with a fast asset turnover is at an advantage over a company that has a slow asset turnover. This is because asset turnover impacts the return on investment. According to Hutahaean (2020), total asset turnover is a tool for measuring the turnover of all assets owned by the company and the volume of sales revenue obtained from each unit of assets. In agreement, Prastowo (2015) stated that the total asset turnover ratio assesses the company's asset activity and its ability to generate sales through the use of these assets, as well as how efficiently these assets have been utilized for income generation.

Ndubuisi, Ifechi and Onyema (2018) described asset as anything of value, owned by an entity and capable of generating income. Similarly, Djazuli, Choiriyah, Anggraini (2019) defined asset as all resources owned by the company to be used in its operational activities. Also, Oliver, Ugbor and Chukwuani (2017) defined asset in line with the definition of United State Institute of Management Accountants as any object or right owned by an individual or entity which has economic benefits for future periods expressed for accounting purposes.

In a sweeping definition, asset included every economic resource, whether tangible or intangible, belonging to any organization or any individual person, as an asset, provided it has an economic value (Tharshiga & Velnamby, 2017). In that case, total assets are a combination of all non-current assets which are bought to be used for a longer period of time and current assets which can be easily converted into cash. However, intangible assets may also be liabilities detracting from the earning power of the physical assets of a firm. For example, consumer mistrust of a company engaged in fraudulent activities might result in an intangible liability (Setiadharma & Machali, 2017).

Dimensions of Sustainability Practices

Far back as 1998, economic sustainability practices were defined as a production system that satisfy present needs without compromising future consumptions (Basiago, 1998). According to Baumgartner and Ebner (2010) economic sustainability dimension as firms` activities geared towards maintaining market presence by improving their financial performance. Dembo (2017) opined that the economic sustainability practices focus on the long-term economic performance of the company itself. According to Atanda, Osemene and Ogundana (2021), economic sustainability practices involves the use of strategic manners to ensure optimal use of existing resources of firms that will guarantee long-term value.

Also, GRI (2015) defined economic sustainability practices as activities of organisations that aimed at improving the economic condition of the stakeholders at the local, national and global level. The economic sustainability of a firm is important to its viability as it focuses on its ability to meet the needs of future generations (Simpson & Radford, 2012). The economic dimension indicates how capital flows among the stakeholders of a firm with the direct and indirect economic impacts of its activities on the stakeholders (GRI, 2015). The financial performance of firms is usually reported in the financial statements but what the users of sustainability reports usually seek for is the contributions of firms to the larger economic system (NSE, 2016).

The economic dimension of firm's sustainability has four aspects of practices with each of the element having its indicators; they include: The aspect of economic performance has the indicators of direct economic value generated and distributed, financial implications and other risks and opportunities for the organisation's activities due to climate change, coverage of the organisation's defined benefit plan obligations, and financial assistance received from the government. Another aspect is the market presence which has the following indicators: ratios of standard entry-level wage by gender compared to local minimum wage at significant locations of operation, and proportion of senior management hired from the local community at significant areas of activity. The indirect economic impact is also an aspect with these indicators: development and impact of infrastructure investments and services supported, and significant indirect economic impacts, including the extent of impacts. Lastly, is the aspect of procurement practices with only one indicator of the proportion of spending on local suppliers at significant locations of operation (GRI, 2015).

According to Mervellskemper, Streit and Bochum (2015), the economic dimension of sustainability is more relevant in explaining changes in firm value while the environmental, social and governance dimension are more relevant in explaining changes in financial performance of firms. Traditionally, the main goal of an organization is to grow and maximize the wealth of shareholders which can be enhanced through economic sustainability practices (Uwuigbe, Obarakpo, Uwuigbe, Ozordi, Asiriuwa, Gbenedio & Taiwo, 2018).

Environmental Sustainability Practices (EVSP)

Morelli (2011) defined environmental sustainability practices as meeting the needs of current and future generation without compromising the health of the ecosystem providing them. Joyanti and Goovda (2014) defined environmental sustainability practices as practices by organisaions to achieve financial performance without compromising the capacity for long-term growth considering internal and external resources. According to Dembo (2017), environmental sustainability practices can be defined as practices that ensure the effective management of physical resources to conserve them for the future.

Ucheagwu, Akintoye and Adegbie (2019) opined that environmental sustainability involves reducing the impacts of an organisation's activities on the natural system and ecosystem. The environmental input indicators include water, material and energy while the indicators of environmental output are wastes, emissions and effluents. Also, Dibia and Nwaigwe (2018) defined the environmental dimension to focus on the impact of firms on living and non-living natural systems including the ecosystem. Environmental sustainability practices involve the preservation of the environment and protection of natural resources.

The activities of humans adversely affect the environment by causing global warming, degradation and climate change and as such, firms are to be central to the solutions (Asuquo, Dada & Onyeogaziri, 2018). According to the Department for Environment, Food and Rural Affairs (2006) of the United Kingdom, environmental issues can add to financial risk if not properly managed. Environmental sustainability practices involve reduction of emission, waste treatment, production of quality products, reduction of pollution, treatment of water, conservation of energy and reuse of materials (GRI, 2015). Lu, Abeysekera and Cortese (2015) suggests that environmental sustainability practices enhance firm's internal and external legitimacy which increase economic performance and competitive advantage. The environmental dimension considers the effect of inputs (such as energy and water), outputs (such as emissions, effluents and waste), environmental compliance and expenditures, materials, biodiversity, transport, and product and service (GRI, 2015).

Social Sustainability Practices (SOSP)

Dembo (2017) suggested that social sustainability practices addresses social justice of organisations. According to Dibia and Nwaigwe (2018), the social sustainability practices focus on the impact of firms on the social systems within which it operates. The social dimension of sustainability practices has been defined as the long term efforts of firms that affect the welfare of the society (Kuzey & Uyar, 2017).

The social activities reduce problems that relate to social issues and addresses adverse social impacts on the society (Buallay, 2020). According to Dempsey, Bramley, Power and Brown (2011), the main goal of social sustainability practices is the preservation of positive social values for the society. Likewise, institutional theory suggests that organisations carry out social sustainability to meet stakeholder's pressure. The social dimension focuses on ensuring satisfaction of customers and well-being of employees and communities. Thus, the social dimension is concerned about the impacts of firm's activities on the social system it operates in (Erhinyoja & Marcella, 2019).

Its sub-category includes Labor practices and decent work, human rights, society, and product responsibility. Each sub-category has its different aspects and indicators. Labour practices and decent job is to be practiced and reported under the following elements: Employment, labour/management relations, occupational health and safety, training and education, diversity and equal opportunity, equal remuneration for women and men, supplier assessment for labour practices, and labour practices grievance mechanisms. Also, human right sub-category has the following aspects: Investment, non-discrimination, child labour, forced or compulsory labour, security practices, indigenous rights, assessment, supplier human rights assessment, human rights grievance mechanisms. The sub-category of society has the following aspects to be practiced and reported: Local communities, anti-corruption, public policy, anti-competitive behaviour, compliance, supplier assessment for impacts on society, and grievance mechanisms for impacts on society. Product responsibility as a sub-category of sustainability practice has the following

aspects: Customer health and safety, product and service labeling, marketing communications, customer privacy, and compliance (GRI, 2015).

The social sustainability dimension is an important practice that organisations can leverage on to motivate their employees and improve their effectiveness and efficiency. Gherghina, Vintilă, and Dobrescu (2015) carried out a study on U.S companies to examine the effect of corporate social responsibility (CSR) on firm value and the study revealed that CSR enhances firm value. In line of this findings, is the view of stakeholder theory where sustainability practices is seen as an instrument to meet stakeholder's need.

Governance Sustainability Practices (GOSP)

The governance sustainability practices cover practices by firms to ensure that the interests of the stakeholders are well protected and managed. This dimension ensures transparency, fairness and accountability in the conduct of an organisation. The governance sustainability practices ensure responsibility and accountability for social, environmental and broader economic performance of an entity (GRI, 2015). According to Buallay (2020), the governance dimension of sustainability involves the implementation of principles that help stakeholders to monitor controls, ensure transparency and prevent conflict of interest. The governance dimension ensures that laws, regulations and rules that relate with social, economic and environmental issues are complied with and necessary corrective actions are implemented (Buallay, Hamdan & Zureigat, 2017).

According to Griffin, Guedhami, Kwok, Li and Shao (2014), organisations leveraged on corporate governance to ensure that resources are efficiently managed thereby building stakeholders` trust in firm`s profitability, continuity and sustainability. Corporate governance is an important dimension for firm`s sustainability that ensure meeting stakeholder`s need through its internal control method (Buallay, Hamdan & Zureigat, 2017). Thus, stakeholder and institutional theory holds that the governance dimension aligns economic, social and environmental aspects with each other, track their performance against goals, and convert such goals to actions that ensure the needs of stakeholders are met (Kuzey & Uyar, 2017).

The governance dimension ensures sustainability by making sure that firms operations are on the right tracks, improve firm's reputation and build stakeholder's trust (Buallay, 2020). The practices of governance dimension aim at ensuring that the interest of stakeholders are well managed and protected. Its indicators include governance structure and composition, anti-corruption, the role of highest governance body in risk management, the role of most upper governance body in sustainability reporting, the role of highest governance body in evaluating economic, social and environmental practices, and role of highest governance body in seeking value and strategy.

The governance dimension is essential to stakeholders because it's the medium through which they exercise control over management of firms. The governance dimension ensures that board of directors are responsible for the governance of the firm. Thus, there was a shift made in code of corporate governance towards stakeholder-oriented corporate governance for all listed firms on Nigeria Stock Exchange as far back as 2011 (Nwobu, 2017). Based on the various financial crises globally, having an efficient corporate governance will help to mitigate the crises.

Global Reporting Initiative (GRI)

The Global Reporting Initiative (GRI) standards have been recognized globally as the most widely used framework for sustainability practices and reporting. The GRI was issued

by Coalition for Environmentally Responsible Economies (CERES) in 1997 in United State of America (USA) and United Nations Environment Programme (UNEP) (Yu & Zhao, 2015). In 1998, the GRI was reviewed by a multi-stakeholder committee to encompass all the dimensions of sustainability practices and reporting of environmental, social, economic and governance (Najul, 2016). In 2002, the first version of the GRI standards was established and the second version was developed subsequently. The third version G3 was established in 2006 with the fourth version established in 2013. All the versions of the framework were developed to capture changes aimed at enhancing the transparency and preparation of sustainability reports (Carrot & Sticks, 2013).

According to KPMG (2017), 90% of the world's largest 250 companies now use GRI guidelines in practicing and reporting sustainability. The Global Reporting Initiative (GRI) guideline provides the principle for sustainability practices and reporting. It serves as an international reference for firms that want to practice and disclose their economic, social, environmental and governance sustainability dimensions. The GRI framework is developed in such a way that it could be adopted by firms of any size, location and sector. The sector-specific and general content of the GRI guidelines for reporting sustainability practices were agreed upon by a large number of stakeholders around the world (Najul, 2016).

The GRI framework is developed in such a way that transparency and comparability of sustainability reports are enhanced (Agu & Amedu, 2018). The GRI is under continuous review to ensure that it meets its set goals and that it is based on the principles of completeness, materiality, stakeholder inclusiveness, sustainability context, reliability, timeliness and accuracy (Aggarwal, 2013; Muhammad, 2014). The GRI provides performance indicators for each dimension of sustainability which serves as a benchmark for the practices and disclosures. This study will adopt the guidelines of GRI for the sustainability dimensions

Empirical Review

Alvi and Ikram (2015) found that, although the relationship between total assets and leverage was both significant and positive, the result was of a minor size. Nonetheless, they (Alvi and Ikram, 2015) inferred from the result that an increase in total assets will bring about a corresponding increase in the return on equity. The results of a previous study (Umar, Tanveer, Aslam, and Sajid, 2012) suggested that return of equity (ROE) of a firm had a positive impact on the firm's performance and also showed that the total assets had a positive impact on earnings before interest and tax, besides showing an insignificant impact of return on equity on current assets to total assets. But the impact of total assets and net income after tax on return on equity have been examined in this current research (Alvi and Ikram, 2015) and the result contradicts the previous research (Umar, Tanveer, Aslam, and Sajid, 2012).

The results of the study of Hutahaean (2020) suggested that total asset turnover does not have any significant effect on Return on Investment in Infrastructure, Utility and Transportation Companies Listed on the Indonesia Stock Exchange for the 2012-2015 period. This is due to the fact that high total assets cannot increase company profits because total assets are rotating rapidly and mostly consist of accounts receivable and inventories. This result is consistent with the research of Ningsih, Puspitaningtyas and Iswono (2015) which concluded total asset turnover has no significant effect on increased Profitability. For this study, total assets is defined as resources controlled by an entity as a result of past events and from which future economic benefits are expected to flow into the firm.

Abdulrahman (2014) examined the relationship between corporate social responsibility and total assets of quoted conglomerates in Nigeria. He found a strong, positive and significant relationship between corporate social responsibility and total assets of quoted conglomerates in Nigeria. This result is in harmony with Artiach, Nelson and Walker (2007) who found a positive relationship between corporate social responsibility and corporate financial performance. Ngwakwe (2008), who carried out a study on environmental responsibility and firm performance in Nigeria, also found that firms which invest in social and environmental sustainability would have higher return on total assets compared to firms that do not invest.

Roszkowska-Menkes (2016), found that corporate responsibility has a positive impact on financial performance by means of creating intangible assets. This result contradicts the findings of Konar and Cohen (2001) who established that bad environmental performance has a negative effect on the intangible asset value of S & P 500 firms in the United States of America. It is worthy of note that other previous studies (Balabanis, Philip and Lyall, 1998; Banerjee, Gokarn, Pattanayak and Sinha, 2009) found weak relationship between corporate social responsibility and corporate financial performance. In that connection, Aupperle, Carroll and Hatfield (1985) found no relationship between corporate social responsibility and corporate financial performance. Bassen, Meyer and Schlange (2006) discovered that there is no clear relationship between corporate social responsibility and corporate financial performance.

Hajar and Hoseyn, 2015 investigated the effect of corporate governance on the current assets management of the listed firms in Tehran. They found that the apparatuses of corporate governance significantly impact both the quantity and quality of working capital management. Similarly, Kajananthan and Achchuthan (2013) concluded that corporate governance practices impact the decision on the current assets to total assets of listed manufacturing firms in Sri Lanka.

Kiran (2015) examined the relationship between total assets and corporate social responsibility. Their findings revealed that corporate social responsibility negatively impacts total assets. This result contradicts other research findings in extant literature (Branco and Rodrigues, 2008; Uwuigbe, 2011). However, it is in harmony with the findings of Kedia and Kuntz (1981) who found that corporate social responsibility activities are negatively correlated with firm and asset size. Although, the results further suggested that corporate social responsibility activities have an insignificant impact on assets, net profit margin and profits. In another study, Nugraha, Damayanthi and Nugraha (2020) found that capital structure and liquidity do not affect the value of the company's assets.

Methodology

This study examined the effect of sustainability practices on total Assets of firms listed on Nigerian Exchange Group, this study employs *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 is 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 has been used in previous studies (Emeka-Nwokeji & Osisioma, 2019; Kuzey & Uyar, 2017; Loh & Tan, 2020).

This study was based on static panel data, the population of this study consisted of 168 quoted companies on the Nigerian Exchange Group (NGX) 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 sampling techniques adopted for this study are purposive and judgmental sampling techniques. Purposive and judgmental technique were applied to select the sampled firms based on the following criteria:

- i. The listed firms on the NGX will be grouped into different industry categories
- ii. The company must have its annual reports accessible from 2010 to 2020, and
- iii. 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.

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	4	0	0
	resources			
7.	Construction/rea	9	1	11
	l estate			
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 1 provides information on the number of firms in each sector as quoted on NGX and the number of sampled firms that met the stated sample selection criteria.

This study made use of secondary source of data to examine the effect of sustainability practices on total asset of quoted firms. Secondary source of data was 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 subcategory 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 will be secured through audit reports provided by independent auditors to the firms. Likewise, the figures and ratios to be computed for this study will be verified by senior colleagues and supervisors to ensure accuracy and completeness.

The data to be obtained for this study will be 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 will be 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 will be 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:

 $TA_{it} = \beta_0 + \beta_1 ECSP_{it} + \beta_2 SOSP_{it} + \beta_3 EVSP_{it} + \beta_4 GOSP_{it} + i_t$ Model 1 $TA_{it} = \beta_0 + \beta_1 ECSP_{it} + \beta_2 SOSP_{it} + \beta_3 EVSP_{it} + \beta_4 GOSP_{it} + \beta_5 FMS_{it} + i_t$ Model 2

Where

TA	=	Total Asset
FMS	=	Firm Size
ECSP	=	Economic Sustainability Practices
SOSP	=	Social Sustainability Practices
EVSP	=	Environmental Sustainability Practices
GOSP	=	Governance Sustainability Practices
it	=	Error Term
β_0	=	regression intercept which is constant

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 $\beta_1 \dots \beta_4$ = represent the coefficient of explanatory variables represent the coefficient of moderating variables

Therefore, the following decision rule are applied:

Measurement of Variables

The variables measured in this study are sustainability practices and Total assets. Sustainability practices (independent variable) is measured with economic sustainability practices, environmental sustainability practices, social sustainability practices and governance sustainability practices. Total assets (dependent variable) is measured with Lag of Total assets

Table 3.1 Measurement of Variables

Variable	Measurement	Sources			
Independent (Sustainability Practices)	Joint effect of economic sustainability, social sustainability, environmental sustainability and	Agu and Amedu (2018); Ching, Gerab and Toste (2017); Ucheagwu (2019).			
Economic Sustainability Practices	governance sustainability. 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 environmental category.	Oyedokun, Egberioyinemi and Tonademukaila (2019); Ucheagwu (2019).			
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).			
Total Asset	Current asset + Non- current Asset	Basem, Mahmoud & Anas (2018); Pranesh (2017); Sarlija, Pfeifer, Jeger and Biandzic (2016).			
Firm Size	Natural logarithm of sales revenue	Mule, Mukras & Nzioka (2015)			

Source: Author's study, 2022.

Results, Data Analysis and Discussion of findings

Data Analysis

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.

Descriptive Statistics

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 Total Asset measured by (Total asset (LTA)) as well as the control variable (Firm suze (FMS).

Table 3 Descriptive Statistics of the Variables

Variable	Mean	Std. Dev.	Min.	Max.	
LTA	25.539	1.663	21.51	29.79	
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: Researcher's Work (2022)

Interpretation

Table 3 shows that, **LTA** (**Log of Total Asset**): The mean value is 25.539 and the standard deviation is 1.663. The mean of 2553% is positive and high, which indicates that on the average, the sampled firms have experienced an increase in their total assets over time to the tune of 2553%. This implies that the sampled firms in Nigeria have been able to utilize their revenue and shareholders fund by investing in assets. The standard deviation of 166% is high and shows high volatility in total assets among the sampled firms. The minimum value of 21.51 and maximum value of 29.79 indicate a wide gap in the level of resources controlled by the sampled firms. This implies that while some firms make minimal use of their revenue and shareholders` wealth, others made great use of them.

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 Lag of Total assets (LTA), Economic sustainability practices (EOSP), social sustainability practices (SOSP), environmental sustainability practices (EVSP), governance sustainability practices (GOSP) and firm size (FMS)).

Table 4.Multicollinearity Test

Variable	LTA	FMS	ECSP	SOSP	EVSP	GOSP	VIF	1/VIF
LTA	1.0							
FMS	0.6	1.00					1.1	0.849
ECSP	0.2	0.26	1.00				1.3	0.740
SOSP	0.3	0.23	0.43	1.00			2.2	0.450
EVSP	0.3	0.24	0.35	0.678	1.00		2.5	0.390
GOSP	0.3	0.37	0.47	0.690	0.74	1.00	3.0	0.332
							Mean=	

Source: Researcher's Work (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 Test of Hypothesis (without and with control variable)

	Without	With	•	Differ			·			
	Random-effects		Random-effects		Prob					
	Regression with		Regression with							
	Driscoll-Kraay Drisco		Kraay Std. Err							
Variab	le	Coeff	Std. Err	T-Stat	Prob	Coeff	Std. Err	T-Stat	Prob	
Consta	nnt	24.526	0.820	29.91	0.000	11.422	1.666	6.86	0.000	
ECSP		2.199	0.752	2.93	0.015	1.599	0.665	2.41	0.037	+/+. Dec
SOSP		0.193	0.232	0.83	0.426	0.208	0.301	0.69	0.505	+/+. Inc. Dec
EVSP		0.551	0.203	2.71	0.022	0.442	0.187	2.37	0.039	+/+. Dec
GOSP	GOSP		0.336	-0.42	0.684	-0.450	0.328	-1.37	0.199	-/ Inc
FMS						0.536	0.061	8.78	0.000	
Adj.	0.109	0.4305		Inc		•	•	•	•	•
F-	$Chi^2(4) = 195.8$	8 chi ² ₍₅₎ = 375.14 (0.000)			Sig/Sig					
Haus	chi ² ₍₄₎ = 1.6	chi ² ₍₅₎ = 1.42 (0.922)								
Test	chi ² ₍₁₎ = 1154.0	chi ² ₍₁₎ = 1104.72 (0.00)								
Hete	chi ² ₍₁₎ = 1.7	chi ² ₍₁₎ = 0.46 (0.496)								
Seria	F _(1, 25) = 10.87	F _(1, 25) = 9.352 (0.005)								
Cros	Cros 8.484 (0.00)		4.577 (0.00)							

Source: Author's output (2022)

Interpretation

As depicted in Table 4. The probability values of the t-test revealed that ECSP (p=0.015) and EVSP (p=0.022) have a significant effect on total asset (TA), while SOSP and GOSP insignificantly affect TA (SOSP: p=0.426; GOSP: p=0.684). 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. The magnitude of the effect is expressed in the actual value of the coefficients; thus, an increase in the extent of economic, social and environmental sustainability practices by the firms will result to 2.199, 0.193 and 0.551 per cent increase in the total asset respectively. Contrarily, the more the firm practices governance sustainability there is 0.141 per cent decrease in TA. The explanatory powers of the independent variables reflect that the joint variations in the independent variables yield 10.9% variation in the TA, while the remaining 89.1% changes in TA 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 (p-value of 0.00) showed that sustainability practices significantly affect TA of companies listed in Nigeria.

Model

 $LTA_{it} = \alpha_0 + \alpha_1 ECSP_{it} + \alpha_2 SOSP_{it} + \alpha_3 EVSP_{it} + \alpha_4 GOSP_{it} + \alpha_5 FMS_{it} + \epsilon_{it}...... Model \\ LTA_{it} = \alpha_0 + 1.599ECSP_{it} + 0.208SOSP_{it} + 0.442EVSP_{it} - 0.450GOSP_{it} + 0.536FMS_{it} + \epsilon_{it}...Model$

Interpretation

In model eight, similar 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 0.193 to 0.208 and that of GOSP from -0.141 to -0.450; while diminishes the impact of ECSP from 2.199 to 1.599 and that of EVSP from 0.551 to 0.442. The coefficients of the explanatory variables in Model eight means that an increase in practicing economic sustainability, social sustainability and environmental sustainability will lead to an increase of 1.599%, 0.208% and 0.442% in total asset respectively. However, an increase in practice of governance sustainability will yield a decrease of 0.450% in total asset.

Also, the probability values of the t-test revealed that ECSP (p=0.037) and EVSP (p=0.039) have a significant effect on total asset (TA), while SOSP and GOSP insignificantly affect TA (SOSP: p=0.505; GOSP: p=0.199). Similarly, firm size with α = 0.536 and p=0.000 indicates that it has positive significant effect on total asset.

The explanatory powers of the independent variables reflect that the joint variations in the independent variables yield 43% variation in the TA, while the remaining 57% changes in TA is caused by other factors outside the scope of this model. The probability of the F-test (p-value of 0.00) showed that firm size significantly controls the effect of sustainability practices on total asset 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 0.0000 for model seven being less than the chosen level of significance with the coeff. of 374.14; this study rejects the null hypothesis which states that sustainability practices have no significant effect on Total asset of companies listed on the Nigerian Exchange Group, and thus accepts the alternate hypothesis; and concluded that

sustainability practices have significant effect on total asset of companies listed on the Nigerian Exchange Group Also, the probability of the F-test of 0.0000 for model eight being less than the chosen level of significance; this study concluded that firm size significantly control the effect of sustainability practices on total asset of listed companies in Nigeria.

Discussion

The result of hypothesis seven indicates that sustainability practices (economic, social, environmental and governance) have significant effect on total asset of listed firms in Nigeria. Total asset represent a long term element of value creation. This implies that when firms practice sustainability, they will enjoy improved reputation, increased operational activities and market value which will translate into a long term value creation (total asset). The result is in consistent with stakeholder theory as the theory emphasize that the consideration of the interests of the stakeholders into firms objectives by practicing sustainability would create a competitive advantage for the firm, hence, resulting to increase in firm value in the long run (total asset).

Therefore, practicing sustainability in terms of market presence, indirect economic impacts, economic performance, occupational health and safety, society, labour practices and decent works, human right, products/services responsibility, water, energy, waste management and efficient, emission, governance structure and composition, Role of highest governance body in sustainability reporting, anti-corruption, Role of highest governance body in seeking value and strategy, and Role of highest governance body in evaluating economic, environmental and social practices will enhance the reputation of the firm, generate more revenue, create competitive advantage and create value in terms of total assets as more investors will want to be associated with such firms.

The result of this study is in consistent with the findings of Abdulrahman (2014) and Roszkowska-Menkes (2016) who suggested that corporate social responsibility has positive and significant effect on intangible non-current assets of companies. Similarly, Hajar and Hoseyn (2015) revealed that corporate governance has significant effect on the quality and quantity of total assets of firms. Contrarily, Kiran (2015) expressed that corporate social responsibility (CSR) has a negative impact on total assets of firms as CSR may not be cost effective. Also, Buallay, Hamdan and Barone (2019) revealed that sustainability reporting/practices has a negative impact on firms total assets.

Conclusion and Recommendations

This study concluded that sustainability practices has impact on the total assets of firms listed on the Nigeria Stock Exchange. The study therefore recommended that firm listed on the Nigeria Exchange should fully engage in sustainability practice to enjoy appreciation in total asset.

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