International Journal of
Development Strategies in Humanities, Management and Social Sciences
p-ISSN: 2360-9036 | e-ISSN: 2360-9044
IJDSHMSS
July, 2025
Vol. 15, No. 1

Social Sustainability Reporting on the Performance of Listed Manufacturing Firms in Nigeria (2012-2023)

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Article DOI:
10.48028/iiprds/ijdshmss.v15.i1.15

Abstract

This study examines social sustainability reporting and performance of listed manufacturing firms in Nigeria from 2012 to 2023. To guide the study, four objectives were formulated which led to research questions and research hypotheses. A sample of eight (8) firms from the manufacturing consumer goods sector quoted on the Nigerian exchange group were selected, based on judgmental sampling technique. Secondary data was sourced from online annual financial report of the sampled firms for the period under review. Content analysis was applied for data collection, while hausman was used to select the appropriate model between fixed and random effect and panel least square regression was used to test the hypotheses. The result of the regression revealed that employment and occupational health and safety has no effect on the return on return on asset of manufacturing firms in Nigeria while training and education, and community development was found to have positive and significant effect on return on asset of manufacturing firms in Nigeria. Based on the result, the study therefore recommended that firms in Nigeria should increase their reporting on training and education, among others.

Keywords:
Social Sustainability Reporting, Performance, Return on Asset, Occupational Health and Safety

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Background to the Study

In past decades, corporate finance was primarily defined with the objective of maximizing shareholders wealth. This trend was adjusted with the paradigm shift in the interest of stakeholder value as was postulated by Edward Richard Freeman in 1963. In order to ensure long-term financial success, businesses need to recognize that they are operating within a larger biophysical and social environment. And accordingly, respect the boundaries and processes governing the sustainability of the larger ecosystem as the global economy expands rapidly toward the carrying capacity of the planet. Besides, no business exists in a vacuum without any form of interaction with its environment. Based on their activities, they tend to have some level of impact on the environment and the society (Enyeribe, 2019). These impacts can be positive or negative. Social sustainability reporting according to Closs, Speier & Meacham (2011) describes corporations' responsibilities to society and encompasses issues concerning the alleviation of poverty and diseases, access to health care and education, and general wellbeing of society.

Nnedu (2025) submitted that by reporting information on social sustainability, companies demonstrate their commitment to societal well-being and their responsibility towards communities affected by their operations. Accordingly, firms such as manufacturing companies are being challenged to behave in socially responsive manner while maintaining and improving shareholders value. Basically, organization's main purpose is to survive, grow and maximize shareholders wealth. To meet these objectives, firms prepare conventional financial reports to their various stakeholders, to show their financial performance. But these reports usually do not reflect the effect of the operations of these firms on the people and the society where they operate. Hence, need for social sustainability reporting. Business social license to operate depends greatly on their social sustainability efforts. In addition, a lack of social development, including poverty, inequality and weak rule of law, can hamper business operations and growth. At the same time, activities to achieve social sustainability may unravel new materials, help retain and attract business partners, or service lines. Internal morale and employee engagement may rise, while output and risk management improve.

Sustainability reports with the social dimension is geared towards gaining popularity from outside parties regarding firm activities that can improve the firm's image in the eyes of investors, which ultimately increases the firm's value (Burhan & Rahmanti, 2012). It implies that social sustainability reporting as a business strategy equips business directors on how to reorient their business for new strategy and growth. It helps in linking the capabilities of business management and employees to align with organizational resources. Nevertheless, Alves and Ramos (2022) submitted that social sustainability reporting when properly structured, contributes decisively to increasing the trust of investors and consumers. Therefore, the presentation of financial information, as well as social responsibility information in a single report has become the new trend in terms of corporate reporting since the responsible behavior of firms is no longer appreciated only in economic areas.

Social information reporting is one out of the three dimensions of sustainability reporting as stated by the global reporting initiative (GRI). Therefore, to identify and evaluate the social information disclosed by firms in their annual reports for public consumption and in-depth assessment of firms' activities, one of the main indexes for reference that is globally recognized is an index developed by the global reporting initiative. The introduction of this index gave social reporting the widely publicity it deserves and help researchers to examines the social information related variables that are expected to be disclosed as stated by the GRI index. The GRI-G4 sustainability reporting guidelines (which is the latest version) categorized social dimension into twenty-seven aspects out of which this study concentrates on four aspects of employment, occupational health and safety, training and education and community's community because these variables are mostly reported in the annual report of firms. It is against this backdrop that this study tends to examine the effect of social sustainability reporting on the performance of manufacturing firms in Nigeria.

Statement of the Problem

Social sustainability reporting is about identifying and handling business impacts both positive and negative on individuals. The value of company's association and engagement with its stakeholders is essential since it directly or indirectly affect what happens to employees, vendors, customers and local community among many others. Then, it becomes vital to manage these impacts proactively.

Obviously, as human population continues to increase, material consumption intensifies and production technology further expands there is a steady decline in the quantity and quality of environmental resources. There is continuing concern about social sustainability performance issues in firms such as; human rights, fair labor practices, living conditions, occupational health, safety, wellness, diversity, equity, work-life balance, empowerment, community engagement, training philanthropy, volunteerism, and lot more. This and other factors motivated the research to investigate the effect of social sustainability reporting on performance of listed manufacturing firms in Nigeria. The major variables employed in order to assess the firms' performances is Return on asset (ROA) while variables such as employment, occupational health and safety and training and education has been used to assess the social sustainability reporting.

Several studies have tried to establish the importance of social sustainability disclosures to enhanced firm performance, but there has been no consensus on the influence of social sustainability reporting on firm performance. Findings from extant literature have been mixed and inconclusive, ranging from significant positive relationship to negative relationship and non-significant relationship thereby creating a gap in knowledge which this study tends to fill. For instance, Lucy, Ime and Agnes (2023); Obiora and Omaliko (2022) and Ezeokafor and Amahalu (2019); are of the view that social sustainability reporting, provide positive performance benefits to organizations. Some other studies found non-significant influence of social disclosures on firms' financial performance like; Oba and Fodio (2012); Malarvizhi and Matta (2016); Saman (2019); Polcyn, Us, Lyulyov, Pimonenko and Kwilinski (2022); Ofoegbu (2022); and Musa, Toma and Monica (2022). In resolving the gap in literature, this study adopted return on assets, as against prior studies that used other performance measures thereby, resolving the variable gap. Again, the currency/periodic gap were bridged by considering 2023 as part of the financial period, as against prior studies that the scope of its financial period ended in 2021, hence, thus serious study on this contemporary issue is vital.

Objective of the study

The main objective of the study is to examine the effect of social sustainability reporting on the performance of listed manufacturing firms in Nigeria. Specifically, the study seeks to;

1. Determine the effect of employment social sustainability reporting on return on asset (ROA) of manufacturing firms in Nigeria,
2. Assess the effect of occupational health and safety social sustainability reporting on return on asset (ROA) of manufacturing firms in Nigeria,
3. Examine the effect of training and education social sustainability reporting on return on asset (ROA) of manufacturing firms in Nigeria.
4. Examine the effect of community development social sustainability reporting on return on asset (ROA) of manufacturing firms in Nigeria

Literature Review

Social Sustainability Reporting and Performance

The ability of firms to act in the interests of their environment and society means they are socially responsible or socially sustainable. The social dimension of sustainability is codified as corporate social responsibility (CSR) (Sodhi, 2015). Social sustainability describes corporations' responsibilities to society and encompasses issues regarding the alleviation of poverty and diseases, access to health care and education, and general wellbeing of society (Closs, Speier & Meacham 2011; Haugh and Talwar, 2010; Sarkis, Helms, Aref & Hervani 2010; Sarkis, J, Helms M. M, Aref, A & Hervani 2010). Social sustainability means fulfilling basic human needs today and in the future. It also includes shaping social conditions for future generations. The social dimension of sustainability reporting concerns the impact firms has on social systems within businesses. Uwalomwa, Teddy, Uwuigbe & Ozordi (2018) stated that there is a lot of benefit a firm stands to gain from reporting on its sustainability activities. These benefits could include fostering investor confidence, trust and workers loyalty to the firm. Also, Social sustainability in the word of (Sarkis et al., 2010) is concerned with the human dimension of sustainability, including people's skills and social values, which address quality of life concerns. These concerns require decision-makers to examine the social implications of their actions (Hussain, Mian, Angappa & Mehmood , 2018; Orji, Kusi-Sarpong & Gupta 2019).

A social sustainability report is usually an annual report published by companies with the goal of sharing their social responsibility actions and results. The report synthesizes and makes public the information a firm wants to communicate in respect of their commitments or contributions and actions in social areas. By so doing, firms bring to the knowledge of their shareholders (that is, all parties interested in their activities) their actions towards integrating the principles of sustainable development into their daily operations. The international Organization for standardization (ISO) emphasizes that a business's ability to maintain a balance between pursuing economic performance and adhering to social issues is a critical factor in operating efficiently and effectively. There is a moral imperative as well, put simply, being socially sustainable is just good business practice, and a failure to do so can have a harmful effect on the balance sheet. Additionally, more investors and consumers are factoring in a company's commitment to social sustainability practices before making an investment or purchase. As such, embracing social sustainability as a business strategy can benefit the prime directive of maximization of shareholders value.

Moreover, financial success is critical since it influences current and potential investors' investment decisions. It is believed that sector like manufacturing company need a stable society in order to function economically, and the failure to effectively document the negative impact of the environmental hazards undermine the performance measurement of businesses (Onuara & Egunike, 2016). As a result, the unreported harmful environment that its reportage would have led to appropriate corrective measures interrupts the social harmony required to offer a stable operating environment, their operations are neither economically nor socially viable (Mugambi & Fatoki, 2019). Hence, firms are becoming more conscious of their obligation for the environment and social consequences of their actions on host communities and other stakeholders but the sustainable reporting impact is still inadequately determined (Mugambi et al. 2019).

Employment Social Sustainability Reporting and Performance

Sustainability reporting represents a potential instrument to generate data and measure the progress and contribution of companies towards worldwide sustainable development objectives. It can also help companies and organizations measure their performance in all dimensions of sustainable development, set goals, and support the transition towards a resource-efficient and inclusive green economy (Ho & Taylor, 2007). Social sustainability is also related to the human capital of the firm and encompasses business practices that are fair to the workers cos it will directly or indirectly lead to company success or failure. Basically, employee well-being and equity practices (EWEP) are one of the key internal factors of social sustainability practices (Wang, Yang, Park, Um, Kang 2022). Therefore, in the area of employment social sustainability reporting according to GRI G4, it's report takes care for the following aspects;

i. Total number and rate of new employee hires and employee turnover by age group, gender and region.
ii. Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.
iii. Return to work and retention rates after parental leave, by gender.

Corporate organizations are mandated to take care of their employees on this aspect of employment social sustainability and report same.

Training and Education Social Sustainability Reporting and Performance

Among the three pillars of sustainability, social sustainability appears to have received less attention from scholars than environmental and economic sustainability (Huq, Ilma and Robert 2016). And the very aspect seen of great importance that has seriously been neglected is education and training. In recent decades, there has been worldwide interest on how education and training of employees can optimize social sustainability. This is because the contribution of employees to the success of any firm has made it very vital for companies to make policies that will motivate and stimulate workers growth and development in other to put in their best towards good business performance. These policies can come in the form of skill up training and educational programmes for career development on the part of employees. Training in general can be defined as an instrument to improve employees' knowledge and capabilities that help increase motivation, commitment, and performance regarding specific tasks (Jabbour & de Sousa Jabbour, 2016; Teixeira, Jabbour & Jabbour,., 2012). Corporate Sustainability training in particular can serve a medium for achieving social sustainability in corporate organisation like manufacturing. It serves as a tool to communicate an organization's sustainability strategy, values, and attitudes and align them with organizational practices (Law, Hill & Hau, 2017).

Anike, Janice and Rainer (2024) submitted that training provides employees with the knowledge and skills required to perform environmental management tasks as well as helping them to recognize the purpose of their daily work behavior. Training also empowers employees to align their competencies with the organization's values and demands, and can serve as an input control. Firms may require successful training before trusting employees and managers with specific tasks and decision-making. Therefore by consciously engaging employees, management can create a competitive advantage for the organization in terms of Corporate Sustainability implementation (Singh, Chen, Del Giudice, & El-Kassar, 2019). Another crucial benefit of this training is that it encourages employees to adopt good sustainable practices both within and outside the workplace. By educating employees about the significance of social sustainability, organizations create a culture of responsibility and accountability. It then becomes obvious that when employees are well informed through adequate education and training, high performance is assured. Hence, cooperate organizations are encouraged to make strategies that will inculcate the right education and training to improve on the side of employees.

Occupational Health and Safety Social Sustainability Reporting and Performance

The significance of occupational health and safety (OSH) as a component of social sustainable development has been widely recognized in recent years because it directly impacts the well-being of workers which equally impact organizational performance. For instance, Lucy, Ime & Anges (2023), submitted that the contribution of employees to the success of any firm has made it very imperative for companies to make policies that promote the health and safety of these employees. Occupational Health and Safety (OHS) dimension to social sustainability is concerned about organizations formulating and implementing policies and practices in order to provide a safe and healthy working environment, and it attaches importance to the assessment and management of the potential impacts of all risks that may result in loss, injury or damage due to any danger in the workplace to employees, contractors, supply industries, visitors, solution partners and other employees in working areas. Its goals include risk and hazard assessments to identify what could cause harm in the workplace, raising employee awareness, improving and developing processes, ensuring that the most stringent safety measures are taken regarding change of operations, providing a safe and healthy working environment to employees, preventing occupational diseases and achieving zero accidents.

However, there have been calls to improve the health and well-being of employees through corporate social responsibility (Effiong, Oti & Akpan, 2019). This is because healthy people are expected to contribute more to productivity, innovation leading to increase in firm performance. Huang, Verma, Chang, Courtney, Lombardi, Brennan & Perry (2012) evidenced that employee health and safety cost has a positive and significant relationship with profitability, while Nordlöf, Wiitavaara, Winblad, Wijk and Westerling (2015) found no relationship between employee health and safety cost and profitability. Despite the fact that people are working and spend most of their working hours at the workplace, little attention and resources are accorded to health and safety at work (Amahalu & Obi, 2020). Thus, a study of this nature is vital.

Community Development Social Sustainability Reporting and Performance

Community development social sustainability is concerned with firm practices that promote overall wellbeing of the community in which the business operates. It covers business operations and activities that are fair and favorable to the public affected either directly or indirectly by the firms and connected to human capital. In a similar vein, Buallay (2020) submitted that community disclosure practice demands that companies should provide same opportunities, motivate diversity, dispense training and development, seminars to employees, and maintain high occupational health and safety standards to their host community.

Thus, to achieve a sustainable business, organizations should take in wide range of corporate initiatives such as; programs to help employees live healthier lives, community development programs, customer safety programs, and fair-trade practices among others. In turn, information about these initiatives is of interest to multiple stakeholders, including investors who are interested in socially responsible investing, consumers who want to buy “green” products, and community groups concerned about the environmental impact of neighboring businesses. Subsequently, socially responsible companies are advised not only to assess the short- and long-term economic implications of their current activities, but also the long-term environmental and societal effects of their current actions, leading to the triple bottom line approach of reporting environmental, social, and economic performance. Nevertheless, demand for information from stakeholders and a growing recognition that traditional accounting reports are not well-suited to providing this type of information, has led an increasing number of companies both (home and abroad) to issue separate sustainability reports.

Theoretical Framework

Signal Theory

Michael Spence in his article in 1973 propounded signaling theory when he stated that two parties can solve the problem of asymmetric information by one party sending a signal that would reveal some piece of relevant information to the other party. Therefore, the signaling theory focused on how to resolve the issue of information asymmetry in a business environment that is always competitive in nature. Information asymmetry can mar the achievement of the goal of a firm because it can cause a rift between management and stakeholders. Wang and Hussainey, (2013) supporting signaling theory states that companies disclose more information to give a positive signal to investors in capital markets. This is why the purpose of the management is to send a signal that will bridge the gap by sending relevant and quality information to the different parties. Connelly, Certo, Ireland and Reutzel (2011) opine that signaling theory is embedded with four key elements: signaler (management), signals (information), receiver (stakeholders), and feedback (stakeholders 'reaction) just as with basic communication channels. The management being the custodian of information is the focus of the theory because they are to share information they deem necessary to stakeholders and also receive signal based on the information they communicate. The most important personality in the signaling process is the signaler and the receiver. The duty of the signal is to convey positive or negative information that will resolve the issue of information asymmetry. Therefore, firm grow this significantly related to quality of signals sent to stakeholders. In the words of Dionne and Ouederni (2011) positive signals increase firm value and performance, whereas negative signals reduce stock price and product demand. Therefore, signaling can be considered as a good business strategy by management by way of disclosing economic, social and environmental information to all concerned. A good management not only sends signals but reliable signals that have evidence of honesty, impact on society and environment which will pave way for competitive advantage.

Stakeholder Theory

This theory was put forward by Freeman (1984) and states that any business has interconnected relationships with other parties, such as employees, special interest groups, prospective clients, trade association customers, government, communities, investors, suppliers and others. These other parties are called stakeholders. Thus, stakeholder's theory contended that a business is expected to strike a balance in meeting the diverse range of needs of its various stakeholders. The success of a firm is linked to how successfully it adapts to its environment Enyeribe (2019). Therefore, for enterprises to remain in business, it is expected that it devises policies to meets the diverse needs of its stakeholders and not just its shareholders. The relevance of the theory to this study is that sustainable finance is aimed at achieving the triple bottom line so that other stakeholders' interests are safeguarded. Realizing the triple bottom line means that firms give equal attention to social, environmental, and economic factors as they do to profits. This is critical because business do not operate in isolation since there are normally linkages. Put into context, the stakeholder theory can be illustrated as follows: Financial institutions are expected to meet their social obligations, such as providing a safe working environment and contributing to the welfare of the community as its stakeholders. On the investors' side, both current and prospective, the business is expected to be transparent and ensure the availability of all crucial information that can aid informed decision making. On the funding side, creditors expect the company to be professionally managed and guarantee full repayment of its debts. The government as a stakeholder expects prudence in management so that the business can stay in a profit-making position which will allow them to pay their taxes, and the owners need sufficient returns to justify why the business should remain operational. Social sustainability reporting as a contemporary issue in modern day business is gradually being incorporated in businesses due to the pressure from larger society for sustainable practices. The two theories are in connection with the topic, reason being that, firms are motivated to convey quality and relevant data that will resolve the issue of information asymmetry to different stakeholders in order to stimulate and enhance performance.

Empirical Review

Nnedu (2025) examined the relationship between sustainability reporting and firm performance through a thematic review. Data was collected through a rigorous search of relevant academic literature published between 2018 and 2024. Findings revealed that economic reporting fosters in confidence and reduces financing costs while social reporting strengthens brand loyalty and stakeholders' engagement,

Akinadewo Adebayo, Oluwagbade, Ogundele, & Jabar, (2023) investigated the effect of sustainability reporting practices on the financial performance of listed industrial goods firms in Nigeria. The result of the analysis showed that economic sustainability practice has a positive but insignificant relationship on change in total asset with probability value of 0.569 and positive significant relationship on change in stock price to the tune of 0.034. Environmental sustainability practice has a positive and significant impact on the financial performance (captured with change in total asset and change in stock price with probability value of .025 and .012 respectively) while community involvement sustainability practice has a positive and insignificant relationship on financial performance of the listed firms to the tune of 0.557 and 0.875. The study, therefore, concluded that there is significant impact of environmental sustainability reporting practice on financial performance of listed industrial goods firms in Nigeria. The study recommended that the management should as a matter of fact integrate sustainability practices so that the impact can be felt on financial performance of firms.

Lucy, Ime and Agnes (2023) investigated effect of sustainability reporting on the financial performance of listed oil and gas firms in Nigeria from 2012 to 2021. From the analysis, it was observed that social disclosure, health and safety disclosure and environmental disclosure have a significant positive effect on the return on capital employed by oil and gas companies in Nigeria. Based on these findings, it was concluded that sustainability reporting has a significant effect on the return on capital employed by oil and gas companies in Nigeria. Thus, it was recommended that oil and gas companies should make sustainability reporting mandatory at the industry level, as such; a standardized sustainability index should be put in place as a benchmark to monitor compliance.

Obiora and Omaliko (2022) examined the impact of community development and waste management disclosure on corporate liquidity in Nigeria. The study used quoted companies ranging from consumer goods, industrial goods to oil and gas sector from 2015-2021. The study found that disclosures on community development and waste management have a significant impact on the liquidity of firms in Nigeria at 5% level of significance. Based on this, the study concludes that disclosures on community development and waste management have positively improved the liquidity of companies over the years.

Akpan and Emenyi (2020) investigated the effect of the triple bottom-line reporting on the financial and operating performance of oil and gas firms in Nigeria. The results showed that triple bottom line reporting has a significant effect on earnings per share (EPS), return on equity (ROE) and return on total assets of the studied companies. Using a hand-collected representative sample of 95 publicly traded American firms from various sectors from 2015-2016,

Asogwa (2020) examined the effect of social disclosures, environmental, disclosures, and economic disclosures on the profitability of listed consumer goods manufacturing companies in Nigeria. The study revealed that economic and social performance disclosures have an insignificant positive impact on both earnings per share and return on equity, whereas, environmental disclosures have strong positive and significant effects only on earnings per share. It also indicates that sustainability reporting had a positive and significant impact on the profitability of selected companies.

Adesunloro, Udeh, and Abiahu (2019) aimed to ascertain the influence of corporate social responsibility accounting disclosures on the financial performance of Nigerian Breweries Plc. Results from T-test statistics at a 5% level of significance revealed that Nigerian Breweries Plc did not significantly disclose CSR accounting information in their 2014-2017 annual financial reports as compared to the three surveyed banks. Nonetheless, the observed insignificant CSR accounting disclosures by the company improved its financial performance. That implied that the performance of Nigerian Breweries Plc. was positively influenced by its CSR culture. Hence, the researchers recommended Nigerian Breweries Plc. and other manufacturing companies to be intentional about improving their stakeholders' investment through adequate disclosure of CSR activities.

Ezeokafor and Amahalu (2019) examined the effect of sustainability reporting on the corporate performance of quoted oil and gas firms in Nigeria. This study adopted time-series and cross-sectional analysis of selected oil and gas firms quoted on the Nigerian Stock Exchange as of 31st December 2017 for a period of seven years spanning 2011 – 2017. The study made use of the expost facto research design. The results of the study revealed that sustainability reporting (proxied by economic, environmental and social performance indices) has a significant positive effect on return on equity, net profit margin and earnings per share at a 5% level of significance.

Akabom, Dada and Onyeogaziri, (2018) examined the effect of sustainability reporting on the corporate performance of selected quoted brewery firms in Nigeria. The result of the study shows that Economic Performance disclosure (ECN), Environmental Performance disclosure (ENV), and Social Performance disclosure (SOC) have no significant effect on the return on asset (ROA) of selected quoted firms in Nigeria, which suggest a negative effect. Chen, Feldmann & Tang (2015) studied the relationship between social performance and firm financial performance in manufacturing companies. The results show that product responsibility, society, and human rights are positively related with firm financial performance.

Methodology
The study employed ex-post facto research design. This design is specifically used to establish if there is any effect of social sustainability reporting on performance of manufacturing firms in Nigeria. A sample size of eight (8) firms under the consumer goods sector quoted on the Nigeria Exchange Group (NGX) from 2012 to 2023 was selected through Judgmental sampling technique out of twenty-one. The selection was based on companies that consistently file their annual reports with the Nigerian Exchange (NGX) Group for the study period 2012 to 2023. The sampled firms are: Guiness Nigeria Plc, International Brewery, Nigerian Brewery Plc, Champion breweries, Unilever Nigeria plc, Nestle Nigeria plc, Cadbury Nigeria plc and Dangote Sugar plc.

Method of Data Analysis
Data analysis was based on a qualitative content analysis process which according to Hsieh and Shannon (2005) is a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns. The content of the annual report of the sampled firms from 2012 to 2023 was evaluated vis-à-vis the four aspects of social sustainability reporting dimensions. The ratings for assessing sustainability reporting using the GRI-G4 standards in these breweries is as follows:

Rating:
0-Index not included in the report at all.
1-Index included in the segment report but in general terms.
2-Index included in the segment report but in specific terms.

However, the descriptive statistic is used to give summary of the social sustainability data. It is used to check if the variables are reliable and normally distributed. In order to ascertain the appropriate model of the panel data analysis, fixed and random effect was subjected to test using hausman test. Hausman test is used to ascertain the appropriate model for testing hypothesis in order to give accurate result devoid of mistakes

Model Specification
The model adopted by the study is Uchegbu, Kalu and Enyeribe (2023) on the effect of environmental sustainability reporting on turnover of manufacturing firms in Nigeria using the global reporting initiative.

The economic model for the study that captured the hypotheses of the study is represented as:

Performance=β_0+β_1 EMSSR +β_2OCHSSR +β_3TESSR +β_4CDSSR+ε

Where:

Performance=Return on Assets

EMSSR =Employment social sustainability reporting

OCHSSR =Occupation, health and safety social sustainability reporting

TESSR =Training and education social sustainability reporting

CDSSR = Community development social sustainability reporting

β_0,β_1,β_2, $\beta_{3and}$$\beta_{4,}$=Parameter of measurement.

ε=Residual

The decision rule is based on the test of hypotheses, and the decision on whether to accept or reject each hypothesis is based on the result of the T-Test/T-Statistics since the t-statistics is used to test the significant contribution from each predictor to the regression models. The decision rule is that when the probability value of the individual test (t-test) of the independent variable is less than 0.05 significant level, null hypothesis (H_O) is rejected to accept H_A and conclude that the independent variable has effect on the dependent variable, otherwise H_O is accepted to conclude that the independent variable has no effect on the dependent variable.

Correlated Random Effect- Hausman Test

Equation: Untitled

Table 1: Test cross-section random effect

Test summary	Chi-Sq. Statistics	Chi-Sq. d.f.	Prob
Cross-section random	0.877489	4	0.9278

The hausman test as shown in table 1 indicates that the chi-square value of 0.877489 has a probability value of 0.9278 higher than 0.05 level of significant. This therefore led to the adoption of random effect model against fixed effect model in appendix 3. Therefore, the random effect is used to test the null hypothesis stated in the study under review which is in line with the words of Rizka (2012) that stated that the merit of using the random effect model is to eliminate heteroscedastic.

Table 2: Panel Least Square- Random Effect

Dependent Variable: LOGROA
Method: Panel EGLS (Cross-section random effects)
Date: 08/01/24 Time: 20:22
Sample: 1 96
Periods included: 8
Cross-sections included: 12
Total panel (unbalanced) observations: 89
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.745352	0.235520	-3.164711	0.0022
LOGESSR	0.722734	0.521949	1.384682	0.1698
LOGTESSR	-0.769002	0.381937	-2.013428	0.0473
LOGOHSSSR	0.566782	0.352916	1.605998	0.1120
LOGCDSSR	-0.994776	0.293576	-3.388473	0.0011

Effects Specification		S.D.	Rho
Cross-section random		0.228638	0.1450
Idiosyncratic random		0.555091	0.8550

Weighted Statistics			
R-squared	0.160837	Mean dependent var	-0.663293
Adjusted R-squared	0.120877	S.D. dependent var	0.578975
S.E. of regression	0.546404	Sum squared resid	25.07883
F-statistic	4.024939	Durbin-Watson stat	2.258605
Prob(F-statistic)	0.004911		

Unweighted Statistics			
R-squared	0.170462	Mean dependent var	-1.003127
Sum squared resid	28.02957	Durbin-Watson stat	2.020836

Source: E-view 12

The model is represented thus:
Return on asset = $-\beta_0 0.745352 + \beta_1 0.722734$ (ESSR) - $\beta_2 0.769002$ (TESSR) + $\beta_3 0.566782$ (OHSSSR) $-\beta_4 0.994776$ (CDSSR) + ε.

The panel result as shown in the equation line above shows that there is a positive relationship between employment social sustainability report (ESSR) and Occupational health and safety social sustainability reporting (OHSSSR) and return on asset with the coefficient value of 0.722734 and 0.566782, The implication of this coefficient value is that a unit increase in ESSR and OHSSSR will cause an increase in return on asset to the tune of 0.722734 and 0.566782 respectively. While the result of Training and education social sustainability reporting (TESSR) and community development social sustainability reporting (CDSSR) has negative coefficient values of -0.769002and -0.994776 respectively, this shows that they are negatively related to the dependent variable return on asset (ROA). Thus, a unit increase in TESSR and CDSSR will cause a decrease in return on asset.

The test for measuring the goodness of fit using the Durbin-Watson statistics of 2.258605 tends to two than one also shows the fitness of the model. The F- statistics value of 4.024939 which has a probability value of 0.004911 less than 0.05 level of significance shows that the f-statistics of the model is significant and explanatory variables captured in the model actually predicted the dependent variable return on asset.

The panel regression result testing for individual significance using the t-test indicated a probability value of 0.1698 that is greater than 0.05 significant levels. This moves the researcher to accept the null hypothesis and conclude that Employment social sustainability reporting (ESSR) have no significant effect on return on asset of manufacturing firms in Nigeria. Additionally, in testing hypothesis two, the regression result for testing individual significance using the t-test revealed a probability value of 0.0473 that is less than 0.05 significant levels. This moves the researcher to reject the null hypothesis and conclude that training and education social sustainability reporting has significant effect on return on asset of manufacturing firms in Nigeria. From the regression result displayed above, the t-test probability value of occupational, health and safety social sustainability reporting is 0.1120 greater than the significant level of 0.05. This is a strong indication that null hypothesis is accepted to conclude that occupational health and safety social sustainability reporting has no significant effect on return on asset of manufacturing firms in Nigeria. In testing the above hypothesis, the regression results revealed t-test probability value of 0.0011. This probability value is less than 0.05 which is an indication that the null hypothesis is rejected and concludes that community development social sustainability reporting has significant effect on return on asset of manufacturing firms in Nigeria.

Conclusion and Recommendations

The study is an attempt to examine the effect of social sustainability reporting on the performance of listed manufacturing firms in Nigeria. From the summary of findings, the study therefore concludes that ESSR and OHSSSR does not impact on return on asset of quoted manufacturing firms while TESSR and CDSSR impacted positively and significantly on return on assets of manufacturing firms. This led to the conclusion that social sustainability reporting is not something to do away with rather measures should be put in place to help it boost performance. Based on the conclusion, the study recommended the following

1. Firms in Nigeria should work out modalities to report employment based on the signal theory so as to make it impact on return on asset
2. Community development and training and education reporting should be taking advantage of by firms since it positively and significantly impacted on performance
3. Firms should improve reporting of ESSR and OHSSR
4. Manufacturing companies should be intentional about improving their stakeholders' investment through adequate disclosure of social sustainability practices.

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