



Environmental and Social Practices as Determinants of Financial Performance of Listed Industrial Goods Firms in Nigeria

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Abstract

Environmental and social credentials have become a global trend; hence have become vital because companies need to spread awareness of their responsibilities for sustainable growth and their multi-dimensional effect on the society. In this study, we examined if environmental and social practices are determinants of financial performance of listed industrial goods firms in Nigeria. The dependent variable is financial performance (proxied by profit margin) and the independent variable is environmental and social practices. Ex-post facto research design was used and ten (10) listed industrial goods firms were sampled. Data was obtained from the annual reports and accounts of the publicly listed firms from 2012-2023 and data collected was analyzed via descriptive and inferential statistics. The panel least square regression result indicates among others that environmental and social practices have statistically significant influence on financial performance of listed industrial firms in Nigeria. On the basis of the findings, the study recommends among others, the need for Nigerian government to improve environmental and social performance evaluation systems aimed at improving corporate performance and be able to meet with global best practices. ,

Keywords: Environmental practice; Social practice; Financial performance; Industrial goods
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Introduction

Due to the need for businesses to increase their knowledge of their multifaceted impact on society and their obligations for sustainable growth, environmental and social values have gained international attention and are becoming more and more important. According to Kaakeh and Gokmenoglu (2022), companies are adopting sustainability strategies, which have resulted in an unavoidable change in business models and management practices. This is because sustainable development in all areas of

activity is increasingly being demanded to become a mandatory requirement at the global level (Chang & Lee, 2022; Chien, 2023). Businesses are using the best strategies to maximise stakeholder value and reach their financial objectives (Al-Amosh et al., 2022). The growing efforts made by businesses to accurately evaluate their dedication to sustainability and global long-term development goals are thus indicative of the practical use of this innovative paradigm (Chang & Lee, 2022). In order to share and/or disclose information on business sustainability with stakeholders, companies

who are eager to publish information on their social and environmental practices do so (Chang & Lee, 2022). Focussing on metrics to gauge an organization's performance in tackling social and environmental concerns or putting policies into place that affect corporate governance, is one of the direction of this approach (Veenstra & Ellemers, 2020). Social and environmental metrics are now crucial for businesses and investors. As a result, while choosing portfolios, shareholders are increasingly taking ethical and environmental standards into account. They can use the information to guide investments that can benefit the company and its shareholders in both social and environmental ways (Orsato et al., 2015; Tiron-Tudor et al., 2022).

Environmental, social, and corporate governance indicators are among the parameters that financial and management professionals use to distinguish between different possible investments. These are all justifications for businesses to take non-monetary goals into account when conducting their operations (Noja et al., 2024). The need to prioritise both short-term and long-term goals, and occasionally forgo optimising short-term financial performance in order to meet pressing social and environmental goals, makes it difficult for business managers to strike a balance between raising financial performance and the complex and high expectations of various stakeholders. According to Veenstra and Ellemers (2020), this balance is frequently reached when reducing the adverse effects of business activities on the environment and society does not compromise financial performance.

Many studies have looked at the connection between financial performance and social and environmental practices, but most of them have only looked at one aspect, like social and environmental governance practices (Kouaib et al., 2020; Kaakeh & Gokmenoglu, 2022; Mu et al., 2022). Due to their breadth and

comprehensiveness, the integrated assessments of two aspects (environmental and social practices) are seen to be somewhat difficult to handle. In light of this, the current study attempts to close the gap and tackle this issue by examining the relationship between social and environmental practices and the performance of listed industrial products companies using a fresh, all-encompassing methodology.

Review of Related Literature

Environmental Practice

Due to the impact of pollution, stakeholders, both internal and external, have recently become more interested in the environmental performance of private organisations (Jasch, 2006). While external stakeholders include communities impacted by local pollution, environmental activist groups, government regulators, shareholders, investors, consumers, suppliers, and others, internal stakeholders, such as employees, may be impacted by pollution in the workplace (Jasch, 2006). Therefore, the enterprise must apply best management practices to reduce waste, hazardous waste, water discharge, spills, air emissions (greenhouse gases, ozone-depleting compounds, carbon dioxide), and its influence on biodiversity.

The management of the company should also make sure that natural resources are used as efficiently as possible during the production process. Support for cutting-edge technology and product innovation could improve environmental performance since it shows how well a business can reduce environmental costs and burdens for its clients, opening up new markets through eco-friendly technologies and processes or long-lasting, eco-designed, dematerialised products (Noja et al., 2024). According to Melnyk, Sroufe, and Calantone (2003), improved environmental performance can draw in new stakeholders and increase the firm's value.

In addition to avoiding the negative business effects of contamination, including good environmental practices into operational activities can result in reasonable cost savings (IFAC, 2005). The accounting literature has seen a significant surge in study on environmental performance in line with the aforementioned concerns. Al-Tuwaijri, Christensen, and Hughes (2004) examined the environmental effects of business operations, including the release of toxic wastes that have been recycled, the amount of pollution in water that has been discharged, non-compliance with environmental regulations, and environmental ratings of companies created by outside organisations.

Numerous techniques have been tested by researchers (Jalaluddin, Sulaiman & Nik-Ahmad, 2010; Henri & Journeault, 2010) to evaluate the environmental performance of the scope of pollution control efficiency and to improve the performance of the organisation. However, Elsayed and Paton (2005) employed three different metrics to assess economic or corporate performance: return on equity, return on assets, and Tobin's Q. Their research shows that financial performance is less affected by environmental performance.

Social Practice

Businesses should be socially accountable since improperly managed environmental activities will have an impact on the environment, people, and profits. Numerous books have been written about how businesses can be socially responsible (Indarawati, Ruhanita & Nor, 2016). The performance demonstrates that what counts is what businesses can do as a result of accepting social responsibility and embracing a responsiveness mindset. Therefore, the business should be socially conscious and attentive to social issues in order to foster trust and loyalty among its employees, clients, and the general public.

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Product responsibility, community, human rights, diversity and opportunity, employment quality, health and safety, and training and development are all indicators of a socially conscious business (Noja et al., 2024). According to Barnett and Salomon (2012), companies with low social practices outperform those with moderate social practices in terms of financial performance, whereas companies with high social practices outperform those with moderate social practices. According to Indarawati, Ruhanita, and Nor (2016), this bolsters the theoretical claim that stakeholders have the ability to turn social duty into financial gain. Product responsibility, community, human rights, diversity and opportunity, employment quality, health and safety, and training and development are all indicators of a socially conscious business (Noja et al., 2024).

Wagner (2010) discovered that there is no direct correlation between social practice and economic performance according to this perspective. Advertising appears to be the sole way that corporate social performance and economic performance are positively correlated (Noja et al., 2024). It demonstrates how important it is to inform pertinent stakeholders—such as customers, NGOs, or regulatory bodies—about socially conscious initiatives in order for businesses to stay competitive.

Financial Performance

For many years, there has been a lot of discussion on how environmental management practices affect business economic performance and competitiveness. Financial performance can be directly reflected in both financial and non-financial indexes. Non-financial indicators include market share, sales area, and customer count, whereas financial indices include sales, profitability, inventory turnover, and return on equity (Earnhart & Lizal, 2010). By generating fair returns through a targeted and

open long-term communications plan with its shareholders, the company can also retain a devoted following. Dependability and customer satisfaction result in realistic and sustained revenue growth (Noja et al., 2024). Economic performance is typically linked to company environmental management policies. Adopting innovative environmental practices, such as reducing pollution sources and operating in more environmentally friendly methods, can lower trash disposal costs and penalties, which can help businesses financially (Aragón-Correa et al., 2008). The empirical study on economic, social, and environmental performance, however, produced contradictory results. According to Orlitzky, Schmidt, and Rynes (2003), there is little evidence of a weak link and some for a weak but statistically significant positive link between economic success and the environment. The results range from negative to negligible to moderately or even significantly positive. Margolis and Walsh (2003) stated that the majority of research points to a favourable link between economic and environmental performance.

Theoretical Framework

The stakeholder idea served as the foundation for this investigation. In 1970, the discipline of management adopted stakeholder theory, which Freeman progressively expanded in 1984 to include corporate accountability to a wide spectrum of stakeholders. According to Wheeler, Colbert, and Freeman (2003), the sociology and organisational fields combined to create stakeholder theory. Stakeholder theory is, in fact, more of a broad study tradition that integrates philosophy, ethics, political theory, economics, law, and organisational science than it is a formal, cohesive theory. "Any group or individual who can affect or is affected by the achievement of the organization's objectives" is the definition of stakeholder theory.

Stakeholder theorists contend that managers in organisations have a network of ties to serve, including suppliers, employees, and business partners, in contrast to agency theory, which holds that managers work and serve the stakeholders. According to agency theory, this network group is significant in addition to the owner-manager-employee relationship (Freeman, 1999). Freeman (1999), on the other hand, argues that stakeholder theory aims to address the group of stakeholders who deserve and need management's attention. However, the firm is a system with stakeholders, and the organization's goal is to generate income for its stakeholders, according to Omoye and Wilson-Oshilim (2018).

Since stakeholder theory focusses on the nature of these interactions in terms of both procedures and consequences for the enterprise and its stakeholders, Freeman (1984) argues that the network of relationships with numerous organisations might influence decision making processes. All stakeholders' interests have inherent value, according to this theory, which focusses on managerial decision-making. It is not expected that one group of interests will predominate over the others. We used agency theory to investigate the connection between financial, social, and environmental performance. According to the agency theory, businesses have a legally obligatory fiduciary obligation to prioritise the demands and expectations of their shareholders in order to increase wealth as a means of providing incentives for them (Ifeani et al., 2016).

From the standpoint of shareholders, businesses ought to fund initiatives that optimise profits while reducing expenses. Other goals would reduce the effectiveness of the company. From a short-term standpoint, companies aim to maximise shareholder value. However, from a stakeholder perspective, businesses must satisfy a wide range of stakeholders, including workers, consumers,

suppliers, financiers, communities, governmental entities, political parties, trade associations, and trade unions, in addition to shareholders (Ifeani et al., 2016). Stakeholder relationships are crucial in expressing social and environmental responsibility, which benefits businesses (Barnett & Salomon, 2012).

To achieve long-term existence and prosperity, organisations must satisfy the various stakeholders, each of whom has distinct expectations for the performance of the company. Sustainability practices, or ESG practices as articulated through ESG reporting, are expected by core groups of stakeholders. In addition to regulatory enforcement, firms are under pressure from their many stakeholders to meet demands for various forms of performance (Omoye & Wilson-Oshilim, 2018). This study's foundation is agency theory, which explains how

companies should operate by maximising shareholder value and stakeholder welfare, respectively. Through financial performance metrics like ROE or return on invested capital (ROIC), agency theory shows how to maximise shareholder value. We can investigate ESG practices, where businesses protect stakeholders' interests; the framework describes the one-way relationship between economic performance and ESG practices.

Methodology

This study adopted *ex-post facto* research design. The study population comprised of twelve listed industrial goods firms in Nigeria and the purposive sampling was employed in selecting ten (10) listed industrial firms on the Nigerian Exchange Group (NGX) Limited. The study used secondary data sourced from annual reports of the sampled companies from

2012-2023. The model specification is as given as follows:

$$PM = f(ENV, CSR, FSIZ) \quad \text{eq. 1}$$

The model is expanded into econometric form;

$$PM_{it} = \beta_0 + \beta_1 ENV_{it} + \beta_2 CSR_{it} + \beta_3 FSIZ_{it} + e_{it} \quad \text{eq. 2}$$

Where: B_0 = Intercept; $\beta_1 - \beta_8$ = are the parameters to be estimated in the equation; PM = Profit Margin; ENV = Environmental Practice; CSR = Social Practice; FSIZE = Firm Size; i = Firm intercept; t = Time intercept (in this case 10 years); e = Stochastic error term

Table 1: Variable Description and Measurements

| Variable | Expression | Measurement | Author/Year |
|------------------------|------------|---|----------------------------|
| Profit Margin | PM | net profit over divided by total asset | Andrew (2021); Chip (2021) |
| Environmental Practice | EVD | Dummy variable (1 or 0) | Nina & Cyrielle (2014); |
| Social Practice | CSR | Dummy variable (1 or 0) | Nina & Cyrielle (2014) |
| Firm Size | FSIZ | Natural logarithm of total assets at end of fiscal year | Nisan, (2014) |

Source: Field Study, (2025)

Results and Discussions

Table 2: Summary Statistics

| | PM | EVD | CSRD | FSZ |
|----------------------|-----------|-----------|----------|----------|
| Mean | -0.418047 | 56.25000 | 51.66667 | 7.333749 |
| Median | -0.334086 | 62.50000 | 50.00000 | 7.275292 |
| Maximum | 0.056730 | 62.50000 | 60.00000 | 7.792330 |
| Minimum | -1.177719 | 37.50000 | 40.00000 | 7.032656 |
| Standard Deviation | 0.397517 | 10.87071 | 5.550885 | 0.214816 |
| Skewness | -0.464661 | -1.154701 | 0.054820 | 0.702632 |
| Kurtosis | 1.983542 | 2.333333 | 2.950413 | 2.633564 |
| Jarque-Bera | 9.484128 | 28.88889 | 0.072399 | 10.54521 |
| Probability | 0.008721 | 0.000001 | 0.964448 | 0.005130 |
| Sum | -50.16563 | 6750.000 | 6200.000 | 880.0499 |
| Sum Square Deviation | 18.80439 | 14062.50 | 3666.667 | 5.491356 |

Source: Field Study, (2025)

Table 2 presents the descriptive statistics for the different variables of the study with an observation of 120 (10 firms x 12years). Mean is the most commonly used measure of central tendency. The standard deviations show the deviation/dispersion/variation from the mean. It is a measure of risk, the higher the standard deviation, the higher the risk. The standard deviation is a measure that summarizes the amount by which every value within a dataset varies from the mean. It is the most robust and widely used measure of dispersion. skewness is the measure of how

much the probability distribution of a random variable deviates from the normal distribution. The result delineates that probability distribution for CSRD (0.054820) and FSZ (0.702632) is positively skewed distribution, while the probability distribution for PM (-0.464661); and EVD (-1.154701) is a negatively skewed distribution. The probability values of Jarque-Bera Statistics shows that EVD=28.88889; CSRD=0.072399 and LFSZ=10.54521 are statistically significant at 5% except CSRD.

Table 3: Pearson Correlation Matrix

| | FM | EVD | CSRD | FSZ |
|------|----------|----------|----------|--------|
| FM | 1.0000 | | | |
| EVD | 0.04442 | 1.0000 | | |
| CSRD | 0.36127 | -0.52223 | 1.0000 | |
| FSZ | -0.53089 | 0.12529 | -0.48258 | 1.0000 |

Source: Field Study (2025)

From the findings on the correlation analysis, the study revealed a positive relationship between CSRD, and FM by correlation factors of 0.665, 0.525, respectively, while a negative association exists between EVD (-0.391); FSZ (-0.890) and FM. Multicollinearity is the occurrence of high intercorrelations among two or more independent variables in a multiple regression model. Multicollinearity can lead to wider confidence intervals that produce less reliable probabilities in terms of the effect of independent variables in a model (Frost, 2021).

Table 4: Panel Least Square Regression

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------------------|-------------|----------------------|-------------|-----------|
| C | 3.065871 | 0.964026 | 3.180279 | 0.0019 |
| EVD | -0.013270 | 0.001319 | -10.06426 | 0.0000 |
| CSRD | 0.026374 | 0.002858 | 9.229395 | 0.0000 |
| FSZ | -0.599148 | 0.116318 | -5.150935 | 0.0000 |
| R-squared | 0.930185 | Mean dependent var | | -0.418047 |
| Adjusted R-squared | 0.927757 | S.D. dependent var | | 0.397517 |
| Sum squared residual | 1.312825 | Schwarz criterion | | -1.477954 |
| Log likelihood | 100.6460 | Hannan-Quinn criter. | | -1.546932 |
| F-statistic | 383.0536 | | | |
| Prob(F-statistic) | 0.000000 | | | |

Source: Field Study (2025)

Table 4 is the regression analysis to test the relationship between environmental, social and profit margin. Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in the table 4.3, the value of adjusted R squared was 0.93, an indication that there was variation of 93% on profit margin due to changes in environmental and social practices. This implies that only 93% changes in profit margin of the firms could be accounted for by independent variables while 7% was explained by unknown variables that were not included in the model.

The F-statistic of the regression is equal to 383.0536 and the associated F-statistical probability is equal to 0.00000, implies that environmental social practices have statistically significant effect on profit margin of the industrial goods. Since the P-value of 0.000 is less than the critical value of 5% (0.05), then, it would be upheld that environmental practice has significantly affect financial performance of industrial firms in Nigeria at 5% level of significance.

This result is in line with Omoye and Wilson-'Oshilim (2018) who found that firm size have significant and positive relationship with environmental practice. But Nur, Suganthi and Yuen (2023) results showed that individual environmental score has a negative impact on ROA but a positive impact on ROE and Tobin's Q. Also the study of Kim and Lee (2023) results showed a negative association between earnings announcement and ESG scores (i.e., earnings announcement on Friday and firms that omit preliminary earnings announcements)

Furthermore, the study revealed that the probability of the slope coefficients indicate that; P-value = 0.000 < 0.05). The co-efficient value of; $\beta_1 = 0.026374$; $t = 9.229395$, implies that social practices is positively related to financial performance, and also statistically significant at 5%. This result agreed with Rahmatulloh, and Suranta (2023) who revealed that the social and environmental index exerts a positive and statistically significant influence on ROA, ROE, and Tobin's Q. Furthermore, it is noteworthy that earnings management does not possess the capacity to moderate the relationship between ESG and company performance.

This result is not in conformity with Nur, Suganthi and Yuen (2023) results indicates that social disclosure on its own has an insignificant negative influence on all variables and governance has a positive but insignificant impact on all variables (ROA, ROE and Tobin's Q). Also the study of Kim and Lee (2023) results showed a negative association between earnings announcement and environmental, social and governance practices.

Conclusion and Recommendations

The study investigated the influence of environmental and social practices on financial performance of listed industrial goods firms in Nigeria. Data obtained were analyzed with descriptive and inferential statistics. The panel least square regression result indicates among others that environmental and social practices have statistically significant influence on financial performance of listed industrial firms in Nigeria. On this note, the study concludes

that environmental and social practices are determinants of financial performance of listed industrial goods firms in Nigeria. On the basis of the findings, the study recommends among others, the need for Nigerian government to improve environmental and social performance evaluation systems aimed at improving corporate performance and be able to meet with global best practices. ,

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