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Effect of sustainable investing on financial performance of listed manufacturing firms in Nigeria

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Abstract

Purpose: This research work examines the effect of sustainable investing on financial performance of manufacturing firms listed on the floor of Nigerian Exchange Group LTD.

Methodology: Secondary source of data was utilized and the data for this study were obtained from the audited financial statements of selected listed manufacturing/consumer goods firms in Nigeria over a ten-year period (2016–2025). The panel data collected was analyzed using multiple regression techniques.

Results and Conclusion: The results of the study revealed that economic performance has negative and significant effect on Return on Assets of the studied listed consumer goods companies in Nigeria. That also means an increase in economic expenditure of the listed Nigerian consumer goods firms, their financial performance will decline. The environmental performance has positive and significant effect on Return on Assets of the listed consumer goods companies in Nigeria. This is an indication of a direct relationship between environmental expenditure and financial performance of the manufacturing firms in Nigeria. If environmental expenditure is increased, the financial performance will also increase at determinable rate. Also the social performance has positive and significant effect on Return on Assets of the listed consumer goods companies in Nigeria. This is an indication that an increase in social expenditure exercised by the listed consumer goods companies, their financial performance will increase at a determinable rate. In conclusion, Sustainable investing has significant impact on the financial performance of listed manufacturing firms in Nigeria.

Implication of Findings: The findings highlight the relationship between sustainability reporting and the financial performance of manufacturing firms, particularly the adverse effect of economic expenditure on financial performance. This suggests the need for a review and development of appropriate policies that can enhance public welfare while simultaneously contributing positively to the financial performance of firms.

Keywords: Economic sustainability, environmental sustainability, ROA, sustainable investing, social sustainability.

1. Introduction

Sustainable investment and reporting have grown significantly in recent years, with organizations increasingly incorporating sustainability information into their annual reports using established frameworks and standards. The main objectives of sustainability reporting are to enhance transparency and accountability, improve organizational processes, strengthen stakeholder relationships, and build investor confidence. It covers economic, environmental, social, and governance (ESG) issues and serves not only as a disclosure mechanism but also as a strategic tool for integrating sustainable development into corporate policies, operations, and decision-making.

Financial performance is a key indicator of a firm's ability to generate returns, create economic value, and enhance shareholder wealth. It is commonly measured using indicators such as Return on Assets (ROA) and Return on Equity (ROE), which assess how efficiently firms utilize their assets and shareholders' capital. Although financial performance is influenced by various risks and organizational factors, this study focuses on the effects of economic, environmental, and social sustainability performance.

According to Abubakar et al. (2024), sustainability is currently a burning issue and a major cause of concern across the globe. Sustainability practices may improve financial performance indirectly by increasing transparency, stakeholder trust, cooperation, and confidence, thereby creating favorable conditions for stronger business outcomes. At the same time, increasing economic activities and resource consumption have intensified environmental challenges such as pollution, climate change, habitat degradation, and biodiversity loss. Consequently, sustainable practices emphasize efficient resource utilization, waste reduction, pollution control, and the preservation of natural resources for both present and future generations.

Considering the substantial contribution of the manufacturing industry to Nigeria's economic development, together with the growing recognition in the finance literature that sustainable investment practices can influence corporate outcomes, examining their connection with firms' financial performance is particularly relevant. Accordingly, this study investigates whether sustainable investing affects the financial performance of manufacturing companies quoted on the Nigerian capital market. The findings are expected to broaden the existing empirical literature by providing additional evidence on sustainability and corporate financial outcomes, while also offering useful insights for strengthening the long-term development, competitiveness, and sustainability of Nigeria's manufacturing sector.

Although several empirical studies have examined the relationship between sustainability reporting and financial performance in Nigeria, limited sustainability disclosure indices and insufficient empirical evidence **h**ave constrained a comprehensive understanding of the relationship between corporate sustainable investment and financial performance. The remainder of the study is structured to cover the conceptual, theoretical literature, and empirical review, followed by the research methodology, discussion of results, and finally, the conclusions and recommendations.

2. Review of related literature

Conceptual framework

Sustainable investing is inevitably a freewill gesture from the multinational corporate bodies most especially considering the environmental hazards facing the immediate communities and environments. Committing substantial time and financial resources in handling matters associated with economic sustainability, environmental sustainability, and social sustainability is termed sustainable investing while reporting economic, environmental, and social expenditures by corporate bodies in their annual financial reports is the idea of sustainability reporting.

Elkington (2004) conceptualizes sustainability reporting as a mechanism for communicating organizational value by disclosing information concerning a firm's economic, environmental, and social performance. The purpose of such reporting is to provide stakeholders with a comprehensive and impartial representation of an organization's sustainability practices and outcomes, encompassing both its contributions and adverse effects. Nevertheless, Lozano (2011) argues that conventional sustainability reporting may be limited because it does not adequately incorporate changes occurring over time or sufficiently address the connections and dependencies that exist among the economic, environmental, and social dimensions of sustainability.

Sustainability reporting has emerged as a significant means of corporate communication, enabling organizations to demonstrate their commitment to sustainable development through the disclosure of both monetary and non-monetary information. Through these disclosures, firms provide investors, customers, employees, regulators, and other stakeholders with information regarding their environmental, social, and governance (ESG) practices, policies, and initiatives. According to Idris et al. (2020), Corporate Social Responsibility disclosure is closely related to social pressure; responding to this

pressure will largely depend on the firm's specific features and its corporate governance. Sustainability reports also promote greater corporate responsibility by allowing organizations to communicate their progress and contributions toward the achievement of the Sustainable Development Goals (SDGs) (Shad et al., 2019; Adams, 2017).

Environmental, Social, and Governance considerations are increasingly important in evaluating corporate sustainability, responsibility, and long-term resilience. Effective management of environmental, social, and governance issues can strengthen corporate governance, stakeholder relationships, environmental practices, and risk management. These improvements may enhance resource efficiency, reduce operational and reputational risks, strengthen corporate credibility, and ultimately improve financial performance. Overall, empirical evidence suggests that integrating ESG practices into corporate strategy can support organizational resilience, sustainable growth, and long-term value creation.

Theoretical framework

Agency theory and sustainability reporting

Agency theory provides an important theoretical foundation for understanding the relationship between corporate management and those who provide or have an interest in the firm's resources. The theory is based on the principal-agent relationship, in which managers act on behalf of shareholders and other providers of capital. Its relevance became particularly prominent following high-profile corporate governance and financial reporting failures, including the cases associated with Enron, Cadbury, and WorldCom. These failures demonstrated how divergent interests and unequal access to information can create conflicts between managers and shareholders or other external stakeholders. Where organizations provide insufficient information to the public, investors may interpret the resulting information gap as an indication of greater uncertainty and risk. Such perceptions can negatively affect firm valuation or cause investors to demand higher returns as compensation for the additional risk assumed (de Klerk & de Villiers, 2012).

Sustainability disclosure can help address some of these information problems by providing stakeholders with additional information about a firm's environmental, social, and governance practices and risks. Greater transparency can reduce information asymmetry between management and external stakeholders, improve investors' understanding of corporate risks, and potentially reduce the level of risk perceived by capital providers. In turn, enhanced transparency may contribute to more efficient capital markets and lower financing costs for organizations (Dhaliwal et al., 2011; Warren & Thomsen, 2012). From this perspective, sustainability reporting represents not merely a communication exercise but also a governance mechanism through which management can demonstrate accountability to external stakeholders.

Stakeholder theory

Stakeholder theory also provides a relevant theoretical basis for examining sustainability practices and their potential consequences for financial performance. Unlike approaches that place primary emphasis on shareholders, stakeholder theory recognizes that organizations have responsibilities to a broader group of parties affected by, or capable of influencing, corporate activities. These groups may include customers, employees, suppliers, investors, creditors, government institutions, local communities, and the wider public. Accordingly, organizational decisions should take into consideration the interests, expectations, and potential consequences experienced by these different stakeholder groups.

Stakeholder theory explains that businesses should create value not only for shareholders but also for employees, customers, suppliers, investors, regulators, communities, and society. Sustainability

reporting strengthens transparency, stakeholder trust, reputation, cooperation, and access to resources, which can contribute to improved financial performance. The theory also supports a long-term approach to value creation, effective risk management, and organizational resilience by encouraging firms to address economic, environmental, social, and governance concerns.

Empirical review

The empirical literature provides mixed but generally informative evidence concerning the association between sustainability reporting and corporate financial performance across different countries, industries, and institutional settings. Krishna and Lucus (2010), for instance, examined 17 firms quoted on the New Zealand Stock Exchange and 51 companies listed on the Australian Stock Exchange over the period 2002–2009. Their analysis revealed that sustainability reporting was a significant explanatory factor for abnormal returns among Australian firms. In a related investigation, Burhan and Rahamanti (2012) examined 32 companies listed on the Indonesian Stock Exchange between 2006 and 2009 and established a positive association between sustainability reporting and corporate performance.

Abubakar et al. (2024) examined the effect of Governance and social sustainability reporting on the financial performance of listed manufacturing firm in Nigeria. Their study covered a sample of 32 listed manufacturing firms in Nigeria from the 2014 to 2021 utilizing pool ordinary least square with robust standard error estimate technique for data analysis. The results of their investigation revealed that governance reporting has significant effect on financial performance and also social reporting has negative significant effect on financial performance.

Evidence from India also suggests that the financial consequences of sustainability disclosure may vary according to the time horizon considered. Garg (2015) assessed 20 companies included in the BSE GREENEX Index of the Bombay Stock Exchange between 2008 and 2012. The study reported that sustainability reporting was associated with weaker performance in the short term but produced a favourable effect over a longer period. Similarly, Kwaghfan (2015), using data from 64 non-financial companies quoted on the Nigerian Stock Exchange during 2002–2012, found evidence of a positive effect of sustainability reporting on financial performance.

Nur et al. (2016) investigated 200 publicly listed companies on Bursa Malaysia over an eight-year period from 2006 to 2013. Their regression results demonstrated that disclosures relating to the economic, environmental, and social dimensions of sustainability were positively associated with firms' financial performance. However, contrasting evidence was reported by Nobanee and Nejla (2017), who examined UAE banks between 2003 and 2013. Using economic, environmental, energy, and social disclosure measures and ROE as the principal indicator of financial performance, the researchers found that sustainability reporting did not exert a statistically significant influence on bank performance.

Within the Nigerian context, Nnamani et al. (2017) examined three publicly quoted brewery companies over the period 2010–2014. Using ordinary least squares regression, the study established that sustainability reporting had a positive and statistically significant relationship with financial performance. Conversely, Akabom et al. (2018) obtained a different result when they examined three listed Nigerian brewery companies for 2012–2016. Their findings indicated that economic, environmental, and social disclosures did not produce a statistically significant effect on financial performance. These divergent findings demonstrate that the financial implications of sustainability disclosure may differ according to the characteristics of the firms, industry, institutional environment, and measurement approaches employed.

Sroufe and Gopalakrishna-Remani (2018) provided further evidence in support of a positive sustainability-performance relationship. Their study drew samples from Fortune 500 companies, the Corporate Knights Global 100, and the 100 Best Corporate Citizens. The findings indicated that corporate sustainability practices were positively associated with financial performance. Similarly, Johari and Komathy (2019), in their examination of publicly listed Malaysian companies, reported that sustainability disclosures contributed positively to corporate performance.

Amedu et al. (2019) specifically emphasized the relevance of economic and social sustainability disclosures among Nigerian manufacturing firms and advocated the introduction of regulatory requirements that would make sustainability reporting mandatory for publicly quoted companies. Iheduru and Okoro (2019), however, reported dimension-specific differences in the Nigerian setting. Their findings showed that economic and social sustainability disclosures were positively related to ROE, whereas environmental and governance disclosures were negatively associated with the measure. The study consequently recommended the development of more effective strategies for improving the financial benefits derived from sustainability reporting.

Buallay (2019) extended the investigation to financial institutions across 20 countries and found that ESG ratings were positively associated with market performance. However, the study reported adverse relationships between ESG performance and both operational and financial performance. The findings suggest that sustainability initiatives do not necessarily translate uniformly into all dimensions of corporate performance and that organizations may need to align sustainability activities more closely with their broader business strategies.

In another study, Diantimala (2018) examined firms included in the Jakarta Islamic Index and found that greater sustainability disclosure was associated with increased firm value. Nevertheless, the observed improvement in firm value was not significantly attributable to debt, profitability, or firm size.

Uwuigbe et al. (2018), focusing on Nigerian deposit money banks, identified a reciprocal relationship between sustainability reporting and corporate performance. Their results suggested that sustainability disclosure contributed positively to revenue generation but was negatively associated with market price per share. In the aviation industry, Karaman et al. (2018) found that larger and more influential companies were more inclined to undertake sustainability reporting. The researchers therefore emphasized the need for improved reporting practices and stronger participation by corporate boards and regulatory authorities in strengthening sustainability standards within the aviation sector.

Shad et al. (2019) investigated sustainability reporting in relation to corporate performance and enterprise risk management within the oil and gas industry. Their findings indicated that effective risk management could enhance organizational performance and highlighted the usefulness of content analysis for evaluating sustainability disclosure and risk-management practices. In contrast, Carp et al. (2019), examining Romanian companies, found that sustainability reporting had only a limited effect on indicators of corporate development, including the price-to-book ratio. The researchers suggested that this weak relationship could reflect insufficient stakeholder support for incorporating sustainability information into corporate decision-making.

Aifuwa (2020) reported a generally positive relationship between sustainability reporting and corporate performance in developing economies, while emphasizing the need for more sophisticated research approaches to obtain a deeper understanding of the sustainability-performance nexus. Oncioiu et al. (2020) similarly demonstrated the financial relevance of corporate social responsibility indicators by emphasizing the importance of incorporating non-financial CSR information into corporate financial

reporting. Their findings indicate that social and sustainability-related activities can have meaningful implications for organizational performance.

Nguyen (2020), however, reported an inverse relationship between firm value and the extent of GRI-based sustainability reporting among major German companies. This finding implies that extensive adherence to GRI reporting principles do not necessarily result in higher corporate value in every institutional environment. The result further illustrates the possibility that investors may evaluate sustainability disclosures differently depending on the context in which firms operate and the quality or relevance of the information provided.

Research conducted in Nigeria has also produced evidence supporting the financial relevance of sustainability reporting. Nzekwe et al. (2021), examining industrial goods companies in Nigeria, found that environmental, social, and financial reporting had significant positive effects on cash value added. The researchers consequently recommended the establishment of appropriate regulations to strengthen sustainability disclosure and encourage corporate value creation. Similarly, Alhassan et al. (2021) found that sustainability reporting exerted a favourable and statistically significant influence on ROA, ROE, and earnings per share among Nigerian industrial products companies. The study proposed the development of a standardized sustainability reporting index to facilitate sustainable development and support environmental objectives.

International evidence from Africa also indicates a generally favourable association between sustainability reporting and financial outcomes. Isiaka (2022) examined the African context and identified a positive relationship between sustainability reporting and financial success, despite the relatively limited development of sustainability reporting practices across the region. The study suggested that managers in developing economies could contribute to global sustainability reporting efforts by embracing voluntary disclosure practices. Awadzie et al. (2022), using evidence from banks in Ghana, Nigeria, and South Africa, likewise established a positive association between sustainability reporting and financial performance measures such as ROA and Tobin's Q. Their findings suggest that broader and more comprehensive sustainability disclosure may support improved long-term organizational performance.

Al Hawaj and Buallay (2022) provided broader international evidence by examining approximately 3,000 firms from seven industries across 80 countries over the period 2008–2017. Their findings demonstrated that sustainability reporting was associated with market, financial, and operational performance. The study therefore contributed to the growing literature by showing that the implications of sustainability accounting extend beyond a single dimension of corporate performance.

Adamu and Tyasari (2022) investigated the relationship between social sustainability reporting and board structure within the healthcare sector, using a sample of 11 healthcare companies listed on the Main Board of the Nigerian Stock Exchange (NSE) over the period 2010–2019. The findings indicated that firms with larger boards and at least one female director were more likely to disclose information relating to social sustainability activities. In contrast, the presence of non-executive directors on the board had a relatively limited influence on sustainability-related disclosures. The study contributes to the existing body of literature by demonstrating that board size and gender diversity are important determinants of social sustainability reporting among healthcare companies.

Other studies have examined more specific aspects of sustainability reporting. Okika et al. (2022) investigated the association between earnings management and sustainability reporting among Nigerian non-financial firms. The results indicated that firms involved in earnings management were more likely

to report higher levels of sustainability-related activities, suggesting a possible connection between managerial profit manipulation and sustainability disclosure practices. Fiaz and Saba (2022) found a direct and positive relationship between corporate sustainability and ROA among firms in the United States, supporting the argument that responsible sustainability practices can contribute to improved financial outcomes. The authors consequently encouraged policymakers to support measures that facilitate the adoption of sustainable business practices.

Olafusi et al. (2022) found that governance reporting significantly influenced the financial performance of Nigerian deposit money banks, although sustainability information remained inadequately integrated into their annual reports. Similarly, Agbo et al. (2023) reported mixed effects of sustainability reporting, with a slight negative effect on ROE but a modest positive effect on ROA. Korolo and Korolo (2023) also found mixed environmental reporting outcomes and a negative relationship between social sustainability disclosure and financial performance, highlighting the need for stronger regulatory oversight. In contrast, Celik (2023) found that profitability did not significantly influence sustainability activities, although larger firms were more likely to engage in such practices. Overall, the studies demonstrate that the relationship between sustainability reporting and financial performance remains mixed and may be influenced by firm characteristics such as organizational size.

Soomiyol et al. (2023) investigated sustainability reporting among Nigerian oil and gas companies and found that economic and environmental disclosures had significant effects on financial performance, whereas social reporting did not demonstrate a significant influence. The researchers recommended giving greater attention to economic sustainability disclosures as a means of responding to stakeholder information needs and improving organizational operations.

Taken collectively, the empirical literature reveals that the relationship between sustainability reporting and financial performance is not uniform across firms, industries, countries, or performance measures. A considerable number of studies report positive associations, particularly where sustainability disclosure improves transparency, stakeholder confidence, risk management, resource efficiency, and corporate reputation. Other investigations, however, identify negative or statistically insignificant effects, suggesting that sustainability reporting may involve costs or may not immediately generate measurable financial benefits. Some studies also indicate that the effects may differ across individual sustainability dimensions, with economic, environmental, social, and governance disclosures producing different outcomes.

The conflicting findings may be attributable to differences in institutional environments, industry characteristics, sample composition, measurement techniques, reporting frameworks, study periods, and the indicators used to represent financial performance. The evidence also suggests that the effect of sustainability reporting may emerge over the long term rather than immediately, as reported by Garg (2015). Furthermore, the Nigerian evidence remains relatively fragmented across industries, with substantial attention given to banking, oil and gas, brewery, and industrial goods companies. This variation provides justification for further empirical investigation of the sustainability reporting–financial performance relationship, particularly among listed manufacturing and consumer-goods firms in Nigeria. Such research can provide additional sector-specific evidence and help determine whether economic, environmental, and social sustainability disclosures translate into measurable improvements in corporate financial performance.

H_{o1}: Economic sustainability performance has no significant effect on financial performance of listed manufacturing firms in Nigeria.

H_{O2}: Environmental sustainability performance has no significant effect on financial performance of listed manufacturing firms in Nigeria.

H_{O3}: Social sustainability performance has no significant effect on financial performance of listed manufacturing firms in Nigeria.

3. Methodology

An ex-post facto research design involves the analysis of historical data to investigate the relationships among variables through retrospective examination. This research design is appropriate for the present study because it facilitates a direct and comprehensive assessment of the variables under investigation while generating meaningful insights from existing data (Gopalan et al., 2020). The population of the study comprises all the manufacturing or consumer goods companies listed on the Nigeria Exchange Group (NGX). Purposive sampling was adopted because of the availability of data that were to cover ten years of the period between the 2016 through 2025. The sample size consists of the six (6) consumer goods/manufacturing companies listed in the floor of the Nigeria Exchange Group with sufficient annual reports and sustainability/ESG disclosures available for measuring sustainability disclosure index. They are Nestle Nigeria Plc, Nigerian Breweries Plc, Guinness Nigeria Plc, Unilever Nigeria Plc, Dangote Sugar, and Lafarge cement plc.

Data for this study were obtained from the audited financial statements of selected listed consumer goods firms in Nigeria over a ten-year period (2016–2025). The panel data collected was analyzed using multiple regression techniques. The analytical model applied in this study is a modified version of those proposed by Argyrous (2005) and Onwumere (2009), and it specifies the relationship between financial performance and sustainability reporting as indicated under:

$ROA = f\{ECN, ENV, SOC, FS\}$

$ROA_{it} = \beta_0 + \beta_1 ECN_{it} + \beta_2 ENV_{it} + \beta_3 SOC_{it} + \beta_4 FS_{it} + e_{it}$

Where,

ROA = Return on Assets

β = Coefficient of the independent variable and control variable

ECN = Economic sustainability performance

ENV = Environmental sustainability performance

SOC = Social sustainability performance

FS = Firm size

β_0 = Constant

i = Sample companies (six consumer goods companies)

t = time series data (10 years)

The independent variables comprise of economic sustainability performance, environmental sustainability performance, and social sustainability performance. Firm size is a control variable while the dependent variable which is the financial performance is measured using Return on Assets.

Economic sustainability performance is measured using Economic Sustainability Disclosure Index:

$ESDI_{it} = \frac{\sum_{j=1}^{n} Eijt}{n} \times 100$ (Nwaigwe et al, 2022)

E = Economic disclosure item

i = company

t = year

j = Individual economic disclosure item

1 = item disclosed

0 = item not disclosed

n = total number of applicable economic disclosure item.

Environmental sustainability performance is measured using Environmental Expenditure Disclosure Index:

$EEDI: \frac{\sum_{j=1}^{n} Eijt}{n} \times 100$ (Nwaigwe et al, 2022)

E = Environmental disclosure item

i = company

t = year

j = Individual environmental disclosure item

1 = item disclosed

0 = item not disclosed

n = total number of applicable environmental disclosure item.

The social sustainability performance is measured using Social Sustainability Disclosure Index:

$SSDI: \frac{\sum_{j=1}^{n} Sijt}{n} \times 100$ (Gallego-Álvarez, 2019)

S = Social disclosure item

i = company

t = year

j = Individual social disclosure item

1 = item disclosed

0 = item not disclosed

n = total number of applicable social disclosure item.

Firm size is measured using natural logarithm of total assets measured as Ln x Total Assets (Dang, 2018).

Return on Asset is measured using $\frac{Profit\ After\ Tax}{Total\ Assets}$ (Abubakar et al, 2026)

4. Results and discussion

Table 1: Descriptive Statistics

	Mean	Standard Deviation	N
ROA	5.387	10.270	400
ECN	0.703	0.132	400
ENV	0.158	0.013	400
SOC	0.737	0.119	400
FS	27.424	1.341	400

Source: SPSS V.20

In table 1 above, the average financial performance expressed in mean of the manufacturing companies under examination for the study period of 2016 to 2025 measured using Return on Assets is 5.387 percent with the standard deviation of 10.270 percent. The standard deviation of 10.3 percent approximately is an indication that the financial performances of the corporate manufacturing organizations under investigation are impressive which is positively and widely distant from the mean of approximately 5.4 percent.

The mean of the economic sustainability disclosure index is 0.703 which approximately the manufacturing companies under examination have disclosed 7 of 12 economic performances and with a standard deviation of 0.132 which indicates that their economic performance is tightly around the mean.

The environmental performance of the manufacturing firma under investigation has a mean expenditure at an approximate mean of 15.79 percent with a standard deviation of 1.339 percent which indicates that the firms' environment expenditure performance are tightly around the mean of 15.79 percent.

The social sustainability disclosure index has an average of 7 of 12 social expenditure items being disclosed with a standard deviation of 0.119 which is an indication of the social expenditure items being disclosed by all the firms a tightly clustered around the mean of 0.737.

The average firm size of the manufacturing companies under examination is 27.424 with a standard deviation of 1.341 which indicate that the sizes of the manufacturing firms under examination mostly around 27 firm size.

Table 2: Correlation Matrix

Variables	ROA	ECN	ENV	SOC	FS
ROA	1				
ECN	0.215	1			
ENV	0.344	0.497	1		
SOC	0.534	0.443	0.288	1	
FS	0.433	0.580	0.664	0.396	1

Source: SPSS V.20

Table 2: above, of the relationship between Economic Performance and Return on Asset, the Pearson R correlation coefficient of 21.5% revealed weak but not negligible relationship. The Pearson R correlation coefficient of 34.4% in terms of the relationship between Environmental Performance and Return on Assets (ROA), is an indication of weak but not negligible correlation. The Pearson R correlation coefficient of 53.4% revealed a moderate relationship between Social Performance and Return on Assets. And the Pearson R correlation coefficient of 43.3% is an indication of a moderate relationship between Firm Size and Return on Assets.

In addition, using Table 4.1.2 above, the Pearson R correlation coefficient indicated and between the independent variables (ECN, ENV, SOC, and FS) none is 70%, therefore, collinearity or multicollinearity does not exist between the independent variables under investigation.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	0.615	0.378	0.372	1.180

Source: SPSS V.20

From Table 3 above, the Pearson R correlation coefficient of 61.5% shows that strong association exists between the independent variables (which is the sustainability investment measured using economic performance, environmental performance, and social performance) and the dependent variable (Return on Assets). While the adjusted R square of 37.2% indicates that the independent variables can explain variation in the dependent variable at the rate of 37.2%.

The Durbin Watson test of 1.180 which is greater than 1 and is approaching 2, as a result serial or autocorrelation does not exist among the residuals (prediction errors). The confidence interval is reliable and the explanatory variables are statistically significant.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15911.061	4	3977.765	60.025	0.000[b]
	Residual	26176.117	395	66.269		
	Total	42087.178	399			

Source: SPSS V20

From Table 4 above, the ANOVA table with a p-value of 0.000 less than alpha value of 0.05 this is an indication of the goodness of fit of the regression model to explain the effect of sustainability investment on financial performance of the companies under investigation. In addition, the F value which is also indicated in the ANOVA table at 60.025 shows that the regression model is statistically and significant best fit to explain the relationship between the explanatory variables such firms' economic performance, environmental performance, and social performance, and the explained variable which is the Return on Assets. However, a larger F-value indicates the best fitness of the regression model.

Table 5: Coefficients

Model		β	Sig.	Tolerance	VIF
1	(Constant)	-89.305	0.000		
	ECN	-17.918	0.000	0.589	1.697
	ENV	95.702	0.021	0.540	1.851
	SOC	41.749	0.000	0.774	1.292
	FS	2.239	0.007	0.462	2.164

Source: SPSS V20

In Table 5 above the parameter of the independent variable (economic performance) for the manufacturing companies under investigation expressed as -17.918 percent shows that economic performance exerts negative statistical effect on the manufacturing companies' Return on Assets (ROA). Therefore, a unit increase in economic performance, when other independent variables remain unchanged, the Return on Assets will drop at the rate of 17.918 percent. This result is similar to the work of Nobanee and Nejla (2017) but Nur et al. (2016), Burhan and Rahamanti (2012), Nnamani et al. (2016), and Johari and Komathy (2019) have contrasting results where economic performance has positive effect on financial performance. The research of Akambom et al. (2018) indicated that economic performance has no significant effect on financial performance. Also the p-value is determined at 0.000 less than the alpha value of 0.05, which is an indication that the null hypothesis can be rejected, we therefore accept the fact that economic performance has significant effect on financial performance of listed manufacturing firms in Nigeria.

The coefficient (β) of the independent variable (environmental performance) for the manufacturing firms under investigation is determined at the rate of 95.702 percent indicates a positive statistical effect of environmental performance on Return on Assets. As a result, a unit increase in environmental performance when other independent variables remain the same, the Return on Assets of the companies under examination will increase at the rate of 95.702 percent. This is similar to the research work of Nzekwe (2020), Nur et al. (2016), Nnemani et al. (2016), and Iheduru and Okoro (2019) but the work of Akambom et al. (2018) and Buallay (2019) indicated that environmental performance has no significant effect on financial performance. The p-value is determined at 0.021 less than the alpha value of 0.05 indicates that the null hypothesis should be rejected, we therefore accept the fact that environmental performance has significant effect on financial performance of listed manufacturing firms in Nigeria..

The coefficient (β) of the independent variable (social performance) for the manufacturing companies under investigation is determined at the rate of 41.749 percent indicates a positive statistical effect of social performance on Return on Assets. Therefore, a unit increase in social performance of the manufacturing firms under investigation when other independent variables remain the same, the Return on Assets will increase at the rate of 41.749 percent. This is similar to the research works of Aifuwa (2020), and Nzekwe et al. (2021). While Abubakar et al has dissimilar result with social reporting having negative effect on financial performance. But the work of Akambom et al. (2018) and Buallay (2019) indicated that social performance has no significant effect on financial performance. The p-value is determined at 0.000 less than the alpha value of 0.05 which shows that the null hypothesis should be rejected we therefore accept the fact that social performance has significant effect on financial performance of listed manufacturing firms in Nigeria.

The firm size is a control variable in this study with a determined coefficient (β) of 2.239 percent indicates a positive statistical effect of firm size on Return on Assets. A unit increase in Firm size when other independent variables remain the same the Return on Assets will increase at the rate of 2.239 percent. The null hypothesis should be rejected, this is because of the p-value of 0.000 less than the alpha value of 0.05 we therefore accept the fact that firm size has significant effect on financial performance of listed manufacturing firms in Nigeria.

The purpose of the tolerance and variance inflation factor in table 4.1.5 is to test the existence of multicollinearity. Independent variables are required to be independent of one another in order to permit the investigation of their effect on the dependent variables. Where the independent variables appear to correlate, the result could affect the statistical reliability of the regression results. It appears that the results from the test of tolerance ranges between 0.462 and 0.774 less than 1 and the variance inflation

factors ranges between 1.292 to 2.164 less than 10. This indicates that multicollinearity is absent throughout this study.

5. Conclusion and Recommendation

Based on the results of the study and considering a sample of six (6) consumers goods companies purposively selected, sustainability investment has statistical effect on financial performance of manufacturing companies in Nigeria. The negative statistical effect of economic performance on the financial performance of the consumer goods companies in this study is connected with the firms' economic policy measures. The environmental expenditure and social expenditure frameworks adopted by the companies investigated, positively impact on their financial performance.

As such, manufacturing companies in Nigeria need to review their sustainability investment, most especially economic policies and develop more policies that will positively impact on welfare of the general public and in turn impact on the firms' financial performance (measured using Return on Assets). The critical environmental areas needed to be covered in their sustainability investment include pollution prevention and control measures, waste treatment and disposal measure, recycling and wastewater treatment measures, environmental protection programmes and other environmental policy measures. The companies should also priotize their social sustainability investment particularly employee health and safety measures, investment in human right practices, community development measures, customer health measures, community investment, and other social sustainability measures.

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