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# EARNINGS QUALITY AND SUSTAINABILITY OF LISTED NON-FINANCIAL FIRMS IN NIGERIA

**Abdulraheem Olayiwola KADIR**
Department of Accounting and Finance, Faculty of Management and Social Sciences, Kwara State University, Malete
abdulraheem.kadir@kwasu.edu.ng

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**Abstract**
*Despite growing awareness that sustainability drives long-term economic and social development, the sustainability of Nigerian firms seems to be undermined by low-quality earnings arising from managerial opportunistic discretion, accrual manipulation, and income smoothing. Thus, this study examines the effect of earnings quality on the sustainability of listed non-financial firms in Nigeria. An ex post facto research design was employed, using secondary data which were sourced from the annual reports of sampled non-financial firms listed on NGX and a multiple regression analysis was conducted after the descriptive and preliminary analyses. The results revealed that all four earnings quality dimensions significantly and positively affect sustainability performance: accrual quality ($\beta = 0.212$, $p < 0.001$), earnings persistence ($\beta = 0.168$, $p < 0.05$), earnings prediction ($\beta = 0.121$, $p < 0.01$), and earnings smoothness ($\beta = 0.093$, $p < 0.05$). The study concludes that accrual quality, consistent earnings pattern, strong earnings predictability and balanced earnings smoothness are vital determinants of sustainability performance. It is therefore recommended that rigorous earnings-quality mechanisms should be institutionalised to reinforce sustainable performance.*
**Keywords:** Accrual Quality, Earnings persistence, Earnings prediction, Earnings smoothness, Sustainability

## INTRODUCTION

Globally, the quality of earnings is very important to the sustainability of firms since it is a clear measure of the financial well-being of a firm and its efficiency in operations. Quality earnings are a reflection of proper and authentic financial reporting that would win the confidence of investors, minimize the information asymmetry, and develop long-term stakeholder confidence which are all necessary for firms' sustainability. Such stability enhances long-term planning, effective capital allocation, and the formation of robust operational frameworks (Aguguom & Salawu,2018; Koffi, et al., 2025). In Nigeria, the sustainability of firms is increasingly engaging the financial performance as well as the environment, social and governance (ESG) aspects; thus, the quality of earnings has become a critical measure of sustainable business operations. Credible information on earnings enhances proper decision-making by the stakeholders, assists companies in risk management, and is consistent with the international best practices of corporate governance

(Akintoye, et al., 2019; Abdulrauf, et al., 2025). Thus, the sustainability of the Nigerian companies is intimately connected with the integrity of the financial reporting of the corporations, in which the quality of the earnings has been a pillar of the business, enabling the operational performance, transparency and resilience in a competitive business environment (Eyo & Umoren, 2025).

Despite a growing awareness that sustainability drives long-term economic and social development, many Nigerian firms lag in effective and transparent ESG practices. A key challenge lies in the underlying quality of earnings; without high earnings quality, firms struggle to allocate resources strategically, implement long-term sustainability initiatives, and maintain stakeholder trust. One primary concern is poor accrual quality, where firms rely heavily on discretionary accruals to manage earnings. Studies show that earnings management through discretionary accruals negatively affects firms' performance and shareholders' value as this practice distorts financial statements, concealing a firm's true capacity to invest in sustainability initiatives (Atanda, et al., 2024; Ibiang, et al., 2025). Another challenge that undermines firms' sustainability is the earnings persistence as many Nigerian firms report volatile or inconsistent earnings, thus making it difficult to commit to long-term ESG investments (Jeremiah & Akpanuko, 2024). Volatile earnings reduce confidence in future financial capacity, impair stakeholder support, erode stakeholder trust and weaken firms' positions in socially responsible investment markets (Fajuyagbe, 2023).

Another sustainability challenge faced by non-financial firms in Nigeria is the earnings unpredictability emanating from the volatile economic conditions, currency depreciation, inflation, and policy shifts. Unpredictable earnings disrupt financial and sustainability planning, increasing risk perceptions among investors (Olaniyi, et al., 2020). Also, the issue of earnings smoothness has created ambiguity in assessing the sustainability capacity of firms as most firms enable real earnings management that contradicted ethical standards and stakeholders' expectations, especially in the context of prioritizing ESG performance. This has led to the cutting of investments in labour or R&D, distorting labour investment efficiency and long-term resilience (Cao, et al., 2023; Zhai & Xu, 2025). From the foregoing, it becomes imperative to investigate how accrual quality, earnings persistence, earnings predictability, and earnings smoothness affect the sustainability performance of listed non-financial firms in Nigeria. Thus, the study is guided by the following hypotheses:

$H_{01}$: Accrual quality has no significant influence on the sustainability performance of listed nonfinancial firms in Nigeria.

$H_{02}$: Earnings persistence has no significant effect on the sustainability performance of listed nonfinancial firms in Nigeria.

$H_{03}$: Earnings predictability has no significant relationship with the sustainability performance of listed non-financial firms in Nigeria.

$H_{04}$: Earnings smoothness has no significant impact on the sustainability performance of listed non-financial firms in Nigeria.

## LITERATURE REVIEW

### Earnings Quality

Quality of earnings is the level of the reported earnings that shows the true economic performance of a firm and the ability of the firm to sustain its future earnings. Good quality earnings can be defined as consistent, recurring and unrestricted by accounting fraud. Being a critical element of financial reporting, the quality of earnings helps investors, regulators, and other stakeholders to make responsible decisions using valid and transparent information (Dechow et al., 2020). Okolie (2021) explains that earnings quality includes attributes that guarantee that the financial statements of a company accurately reflect its financial position. He underlined that the quality of earnings increases the efficiency of the market by decreasing information asymmetry and increasing investor confidence. This perspective is consistent with that of Barth, Landsman, and Lang (2021), who assumed that companies that have a high quality of earnings are more likely to raise capital at a reduced cost and to develop sustainably. Another robust definition is offered by Tanko and Adebayo (2022), who describe earnings quality as a reflection of the firm's operational integrity and reporting transparency. Their empirical study on Nigerian non-financial firms found that earnings quality is often compromised by aggressive revenue recognition, discretionary accruals, and weak regulatory enforcement, particularly in periods preceding major corporate events such as IPOs or executive transitions. These distortions reduce the reliability of reported earnings and affect stakeholders' perception of the firm's credibility.

**Accrual Quality**

Dechow and Dichev (2002) define accrual quality as the extent to which current accruals map into past, present, and future operating cash flows. In their framework, higher quality accruals are associated with lower estimation errors and smaller residuals when accruals are regressed on surrounding cash flows. Essentially, accrual quality measures the degree to which accruals reflect real economic events rather than management discretion or estimation bias. High accrual quality enables stakeholders to better evaluate firm performance and forecast future cash flows, while lowquality accruals, particularly those driven by managerial opportunism, introduce noise and reduce the reliability of financial statements.

**Earnings Persistence**

Earnings persistence refers to the extent to which current earnings can reliably predict future earnings as it captures the sustainability and continuity of a firm's earnings performance over time, making it a vital attribute of earnings quality (Penman and Zhang, 2002). According to Dechow and Schrand (2004), persistent earnings are those that recur in future periods and thus offer a stable basis for forecasting and valuation. High earnings persistence implies that the reported earnings are not significantly affected by one-off items, transitory gains, or losses, which increases their relevance to investors, analysts, and other stakeholders (Omodero, 2021; Lawal & Ijaiya, 2023).

**Earnings Predictability**

Earnings predictability is used to refer to how well future earnings of firms can be forecasted using past financial results of firms. It is an essential aspect of earnings quality because it shows how financial reporting is consistent, stable, and transparent over time (Dechow & Schrand, 2020). High earnings predictability means that reported earnings are accurate predictors of future performance of a firm which is very critical in making decisions by investors, creditors and other

stakeholders. Anticipated income decreases the uncertainty of the financial market and increases the trust in the stability of the functioning of the firm and its system of governance. Ranjbar, et al., (2021) note that predictable earnings lessen the information asymmetry and facilitate resource allocation efficiently because they allow stakeholders to make more informed decisions regarding resource allocation. Low earnings predictability, on the other hand, can be an indicator of earnings management, aggressive accounting, or exposure to volatile economic factors, which can destroy investor trust and firm valuation. The highly predictable firms are well-established between firms that possess stable business models, consistent accounting policies and good internal controls which create financial discipline and long-term planning.

**Earnings Smoothness**

Earnings smoothness is the degree to which a company ensures that there is less variation in the reporting of earnings over a period of time. It is an indicator of managerial activities to portray a steady flow of profits, which is more likely to be interpreted by investors and other stakeholders as an indicator of reduced business risk and enhanced financial management (Francis et al., 2004). Easy earnings are an indication that a business has a predictable financial performance even when the business environment is unstable and the consistency could increase investor confidence. It, however, also brings in issues of the possibility of earnings management or manipulation, especially when the smoothing fails to reflect the basic business fundamentals. Smoothing of the earnings may be a result of legal accounting decisions, e.g. the depreciation methods, the timing of the revenue recognition, and the practices of providing or non-providing, or through aggressive measures, on the verge of manipulating them. The accuracy of earnings smoothness is useful in examining the standard deviation of earnings in relation to operating cash flows or the variability of the accruals against the total earnings. Companies that maintain less fluctuating earnings reports than their operating cash flows are possible to be practising smoothing (Tucker & Zarowin, 2006).

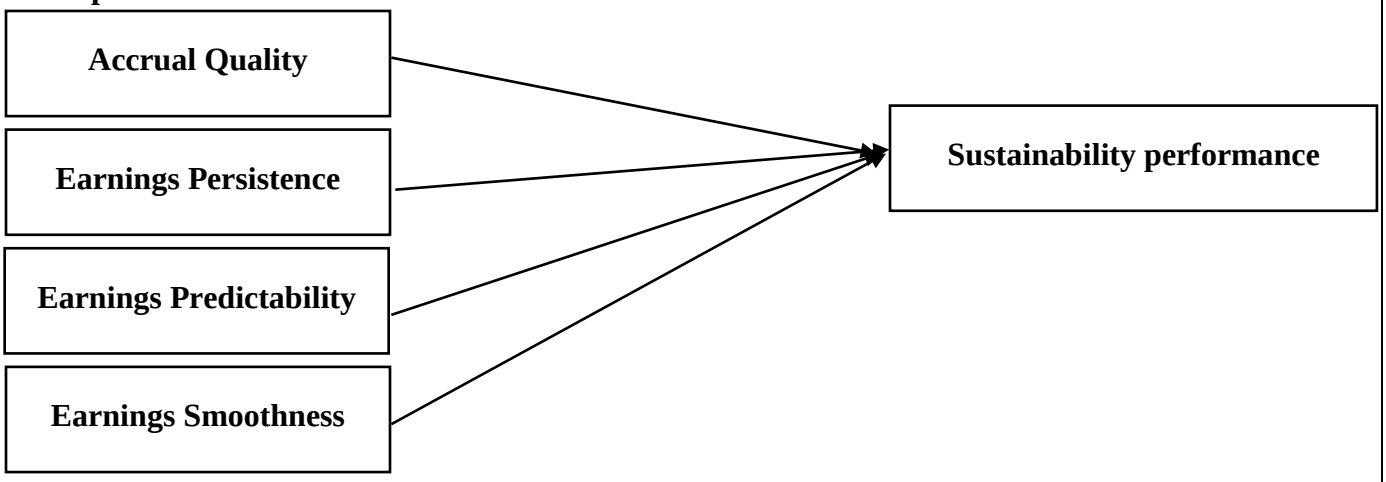
**Sustainability**

Sustainability is the capability of a company to behave in a way able to reconcile the economic goals with environmental preservation, societal obligation, and good governance behaviours (ESG). It includes the quantifiable results of strategies and activities of a firm to maintain the integrity of the environment, enhance social welfare and advance ethical governance. As stated in the Global Reporting Initiative (GRI, 2021), sustainability performance deals with risk and opportunity management in the environmental, social, and governance areas with economic profitability remaining in check. Eccles, et al., (2020) give a more institutional definition of sustainability performance as the ability to apply ESG-related initiatives, which generate longterm value to multiple stakeholders of a firm. Such initiatives are carbon reduction programs, fair labour practices, community development, reporting transparency, anti-corruption practices and board diversity, among others. The high sustainability performance signifies that a company is not just implementing the ESG rules, but also has a strategic approach to incorporate sustainability into its business model.

**Theoretical Framework**

This study adopts Signaling Theory as its theoretical foundation. Originally developed by Spence (1973) and the central tenet of the theory is that firms operate in environments of information asymmetry, where external stakeholders, such as investors and regulators, have limited access to internal operational details. To reduce this asymmetry and positively influence stakeholder perceptions, firms signal their quality and reliability through strategic disclosures (Morris, 1987). In the context of sustainability, signaling theory posits that companies voluntarily disclose nonfinancial information, such as environmental, social, and governance (ESG) metrics to differentiate themselves from lower-quality firms. By providing transparent and verifiable sustainability reports, firms send a signal to investors, regulators, and the broader public that they are responsible, ethical, and committed to long-term value creation. This signal is particularly important in settings where formal enforcement mechanisms are weak or market trust is fragile, such as in many developing countries (Amaya, 2021; Avetisyan & Carlbäck, 2024). In sum, signaling theory offers a valuable lens for understanding how firms use earnings quality to enhance sustainability disclosures and build trust with stakeholders. It supports the premise that in the absence of perfect information, signals such as accrual quality when backed by strong governance can serve as a credible indicator for form sustainability. This theoretical underpinning aligns with the study's objective of examining the interconnections between earnings quality and sustainability of listed non-financial firms within the Nigerian context.

**Conceptual Framework**




The conceptual framework presents the structured relationship between the key variables of this study, earnings quality (independent variable) and sustainability performance (dependent variable), within the context of listed non-financial firms in Nigeria. It serves as a blueprint that guides the empirical investigation, illustrating how the constructs interact and influence each other based on theoretical assumptions and previous empirical findings.

**METHODOLOGY**

This study adopts an ex post facto research design as it enables the examination of the relationship between earnings quality and sustainability without manipulating any of the variables under investigation. This design is particularly suitable because it allows for the analysis of reliable, publicly available data such as audited financial statements, sustainability/ESG reports, and corporate disclosures of selected non-financial firms listed on the Nigerian Exchange Group (NGX). The population for this study comprises all 107 non-financial firms listed on the Nigerian Exchange Group (NGX) as of December 2024 distributed across eleven sectors. This study employs the Taro Yamane (1967) formula to determine the appropriate sample size from the total population of non-financial firms listed on the Nigerian Exchange Group (NGX). The formula is considered suitable for finite populations and is given as: $n = N/ 1+N(e)^2$ Where:

n = sample size

N = population size

e = margin of error (assumed at 5% or 0.05)

Given that the total population of listed non-financial firms in Nigeria is 107, and a 5% level of precision is adopted, the sample size is calculated as follows: $n = 107/1+107(0.05)^2 = 107/1+107(0.0025) = 107/1+0.2675 = 112/1.2675 = 84$ Thus, the sample size for this study is 84 firms.

The study adopts a purposive sampling technique, which allows the researcher to select firms that are most relevant to the research objectives, particularly those with publicly available annual reports and sustainability disclosures within the period under review. This study relies entirely on secondary data obtained from the published annual reports and financial statements of listed nonfinancial firms in Nigeria. These reports were accessed from the official website of the Nigerian Exchange Group (NGX), as well as from the respective corporate websites of the selected companies. The data obtained from the annual reports of listed non-financial firms in Nigeria were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics such as mean, standard deviation, minimum, and maximum values were used to summarize and describe the general characteristics of the variables under study and multiple regression analysis was employed to examine the relationship between sustainability and earnings quality.

**Model Specification**

The empirical model for this study, which examines the relationship between earnings quality and sustainability performance, is adapted from the work of Hartono et al. (2019). Their original model, as stated in equation (i), served as the foundation upon which modifications were made to suit the context of this research.

$SP= \beta o + \beta 1\ EQ + \beta 2\ FS + \beta 3\ LEV + \varepsilon$ ……..(I) Where:

SP = Sustainability Performance

EQ= Earnings Quality

FS = Firm Size

LV = Leverage

$\beta o$ = Intercept

$\beta 1$-$\beta 3$ = Coefficients of explanatory variables

$\varepsilon$ = Error term

In this study, earnings quality (EQ) is disaggregated into multiple proxies in order to capture its different dimensions. These include accrual quality (ACQ), earnings persistence (PER), earnings predictability (PRD), and earnings smoothness (SMO). Thus, the adapted model for this research is stated as follows:

$SP = \beta o + \beta_1 ACQ + \beta_2 PER + \beta_3 PRD + \beta_4 SMO + \beta_5 FS + \beta_6 LEV + \varepsilon$ ……(II) Where:

SP= Sustainability Performance

ACQ= Accrual Quality

PER = Earnings Persistence PRD

= Earnings Predictability SMO=

Earnings Smoothness

FS = Firm Size (control variable)

LEV= Leverage (control variable)

$\beta o$ = Intercept

$\beta_1$- $\beta_6$ = Coefficients of the explanatory variables

$\varepsilon$ = Error term

## RESULTS AND DISCUSSION

### Descriptive Statistics

Table 1 below displays the descriptive statistics for the study's variables, including the mean, minimum and maximum values, skewness, observations and the standard deviation. The variables captured are Sustainability Disclosure Index (SDI), Accrual Quality (ACQ), Earnings Persistence (EPERS), Earnings Smoothness (ESMO), and control variables; Firm Size (FSIZE) and Leverage (LEV).

**Table 1: Descriptive Statistics**

| Variable | Mean | Std. Dev. | Min | Max | Skewness | Obs. |
|---|---|---|---|---|---|---|
| SDI | 0.546 | 0.127 | 0.312 | 0.798 | 0.214 | 84 |
| ACQ | 0.278 | 0.089 | 0.102 | 0.491 | 0.315 | 84 |
| EPERS | 0.624 | 0.151 | 0.302 | 0.899 | -0.128 | 84 |
| EPRED | 0.452 | 0.097 | 0.215 | 0.655 | 0.287 | 84 |
| ESMO | 0.371 | 0.085 | 0.201 | 0.562 | 0.054 | 84 |
| FSIZE | 15.872 | 1.148 | 13.982 | 18.324 | -0.263 | 84 |
| LEV | 0.482 | 0.167 | 0.112 | 0.798 | 0.193 | 84 |

Table 1 presents the descriptive statistics for the variables in the study, based on 84 observations. SDI, has a mean value of 0.546 with a standard deviation of 0.127, indicating moderate variation across the sampled non-financial firms. Its skewness (0.214) is slightly positive, suggesting a weak

right-tail distribution. This implies that the average Nigerian-listed non-financial firms are disclosing just over half of the sustainability items considered, leaving substantial room for improvement in their transparency and reporting practices. Accrual Quality (ACQ) has an average of 0.278 and a standard deviation of 0.089, with a moderate range between 0.102 and 0.491; its skewness (0.315) shows a slight right skew. This means that the relatively low accrual quality values suggest variability in earnings reliability, which may influence stakeholder trust and the credibility of reported financial figures — a factor potentially impacting sustainability credibility. Earnings Persistence (EPERS) averages 0.624 with a higher spread (0.151) and a mild negative skew (-0.128), indicating a slightly left-tailed distribution. Earnings Predictability (EPRED) has a mean of 0.452 and moderate variability (0.097), with skewness (0.287) suggesting a modest right skew. This suggests that past earnings tend to be sustained over time for many firms, which can be a positive signal for long-term planning and consistent investment in sustainability initiatives. Earnings Smoothness (ESMO) shows a mean of 0.371, a relatively low spread (0.085), and nearzero skewness (0.054), implying a nearly symmetric distribution. These values suggest that firms are engaging in a balanced approach to income reporting, which may help maintain investor confidence and ensure consistent funding for sustainability activities.

Firm Size (FSIZE) has a mean of 15.872 (log-transformed) and a standard deviation of 1.148, with skewness (-0.263) indicating a slight left skew. Considering the higher FSIZE values indicated in the table above, this may suggest that larger firms possess greater resources and capacity to implement sustainability strategies compared to smaller counterparts. Leverage (LEV) averages 0.482 with moderate dispersion (0.167) and a small positive skew (0.193). The moderate leverage levels suggest that many firms have a balanced capital structure, which could affect their willingness or ability to finance long-term sustainability projects depending on debt obligations. In addition, the generally low skewness values across variables suggest that the data is approximately normally distributed, which supports the suitability of parametric statistical analyses such as multiple regression.

**Correlation Matrix**

**Table 2: Pearson Correlation Matrix**

| **Variables** | SDI | ACQ | EPERS | EPRED | ESMO | FSIZE | LEV |
|---|---|---|---|---|---|---|---|
| SDI | 1 | | | | | | |
| ACQ | 0.412*** | 1 | | | | | |
| EPERS | 0.368*** | 0.251** | 1 | | | | |
| EPRED | 0.295** | 0.198 | 0.284** | 1 | | | |
| ESMO | 0.336*** | 0.321** | 0.228* | 0.301** | 1 | | |
| FSIZE | 0.354*** | 0.184 | 0.116 | 0.132 | 0.168 | 1 | |
| LEV | -0.241** | -0.189 | -0.096 | -0.105 | -0.143 | -0.318** | 1 |

Note: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$ (two-tailed test)

**Author's Computation (2025)**

Table 2 presents the Pearson correlation matrix for the dependent variable (Sustainability Disclosure Index – SDI), the independent variables (Accrual Quality – ACQ, Earnings Persistence – EPERS, Earnings Predictability – EPRED, Earnings Smoothness – ESMO), and the control variables (Firm Size – FSIZE, Leverage – LEV). The results indicate that the Sustainability Disclosure Index (SDI) has positive and statistically significant correlations with all earnings quality measures except leverage, at varying levels of significance. The strongest correlation was observed between SDI and Accrual Quality (ACQ) ($r = 0.412$, $p < 0.01$), followed closely by its relationships with Earnings Persistence (EPERS) ($r = 0.368$, $p < 0.01$), Earnings Smoothness (ESMO) ($r = 0.336$, $p < 0.01$), and Earnings Predictability (EPRED) ($r = 0.295$, $p < 0.05$). These findings suggest that improvements in accrual quality, persistence, predictability, and smoothness are associated with higher sustainability disclosure among Nigerian non-financial firms.

Firm size (FSIZE) also shows a moderate positive and statistically significant correlation with SDI ($r = 0.354$, $p < 0.01$), implying that larger firms tend to disclose more sustainability information. In contrast, leverage (LEV) has a negative and statistically significant correlation with SDI ($r = 0.241$, $p < 0.05$), indicating that highly leveraged firms may be less likely to engage in extensive sustainability performance, possibly due to financial constraints. These findings generally imply that both financial reporting quality attributes and firm-specific characteristics play important roles in shaping sustainability performance.

**Multicollinearity Test**

The Variance Inflation Factor (VIF) table below provides a measure of multicollinearity among the independent variables. A VIF less than 3 indicates low multicollinearity while values between 3 and 5 suggest moderate multicollinearity. Conversely, a VIF greater than 10 suggests high multicollinearity.

**Table 3: Variance Inflation Factor (VIF) Results**

| Variable | VIF |
|---|---|
| FSIZE | 2.15 |
| LEV | 1.87 |
| ACQ | 2.42 |
| EPERS | 1.76 |
| EPRED | 2.05 |
| ESMO | 1.94 |
| Mean VIF | 2.03 |

Author's Computation (2025)

The Variance Inflation Factor (VIF) values for all variables range from 1.76 to 2.42, with a mean VIF of 2.03. Since all values are well below the commonly accepted multicollinearity thresholds of 10 (and even the more conservative cutoff of 5), this indicates that multicollinearity is not a concern in the model. The variable with the highest VIF is Accrual Quality (ACQ) at 2.42, while Earnings Persistence (EPERS) has the lowest at 1.76. Generally, these results suggest that the explanatory variables are sufficiently independent of one another, ensuring the stability and reliability of the regression coefficient estimates.

**Normality Test**

**Table 4: Kolmogorov–Smirnov and Shapiro–Wilk Test Results**

| Variable | Kolmogorov Smirnov Statistic | Sig. (p-value) | Shapiro–Wilk Statistic | Sig. (p-value) | Decision (α = 0.05) |
|---|---|---|---|---|---|
| SDI | 0.081 | 0.200 | 0.983 | 0.334 | Normally Distributed |
| ACQ | 0.077 | 0.200 | 0.978 | 0.226 | Normally Distributed |
| EPERS | 0.066 | 0.200 | 0.986 | 0.472 | Normally Distributed |
| EPRED | 0.074 | 0.200 | 0.982 | 0.312 | Normally Distributed |
| ESMO | 0.062 | 0.200 | 0.989 | 0.574 | Normally Distributed |
| FSIZE | 0.092 | 0.200 | 0.976 | 0.192 | Normally Distributed |
| LEV | 0.085 | 0.200 | 0.983 | 0.419 | Normally Distributed |

Author's Computation (2025)

The normality test results presented in Table 4 reveal that the Sustainability Disclosure Index (SDI) passed both the Kolmogorov–Smirnov (p = 0.200) and Shapiro–Wilk (p = 0.334) tests, with pvalues greater than the 0.05 threshold. This indicates that the variable is normally distributed, implying that parametric statistical methods such as regression can be appropriately applied without concerns about distributional bias for SDI.

For Accrual Quality (ACQ), the Kolmogorov–Smirnov test yielded p = 0.200 and the Shapiro–Wilk test returned p = 0.226, both above the significance level. This confirms that ACQ follows a normal distribution, meaning the residuals related to this variable are unlikely to violate the assumptions of linearity and homoscedasticity in subsequent analyses.

The results for Earnings Persistence (EPERS) show p = 0.200 in the Kolmogorov–Smirnov test and p = 0.472 in the Shapiro–Wilk test. These values confirm normality, suggesting that EPERS can be incorporated into regression analysis without the need for transformation or non-parametric alternatives. Similarly, Earnings Predictability (EPRED) recorded p-values of 0.200 (Kolmogorov–Smirnov) and 0.312 (Shapiro–Wilk), indicating that it is normally distributed. This

suggests that predictive analyses involving EPRED will meet statistical assumptions, thereby supporting the reliability of parameter estimates in the model.

The analysis for Earnings Smoothness (ESMO) also supports normality, with p = 0.200 in Kolmogorov–Smirnov and p = 0.574 in Shapiro–Wilk. This means ESMO data do not significantly deviate from the normal curve, ensuring that any statistical inferences drawn will not be biased by skewness or kurtosis. Firm Size (FSIZE) returned p = 0.200 and p = 0.192 in the Kolmogorov–Smirnov and Shapiro–Wilk tests, respectively, confirming that FSIZE is normally distributed. This finding implies that firm size can be included in the regression model without violating the normality assumption, improving the robustness of the analysis.

Finally, leverage (LEV) also met the normality requirement, with p = 0.200 in Kolmogorov–Smirnov and p = 0.419 in Shapiro–Wilk. This ensures that LEV data will not distort the statistical estimates, providing confidence in the validity of inferential results involving this variable.

**Unit Root Test**

**Table 5: Fisher-ADF Results**

| Variable | Fisher-ADF Statistic | p-value | Stationarity Status |
|---|---|---|---|
| SDI | 132.47 | 0.000 | Stationary at level |
| ACQ | 118.35 | 0.002 | Stationary at level |
| EPERS | 109.28 | 0.004 | Stationary at level |
| EPRED | 121.64 | 0.001 | Stationary at level |
| ESMO | 114.59 | 0.003 | Stationary at level |
| FSIZE | 97.42 | 0.008 | Stationary at level |
| LEV | 105.11 | 0.005 | Stationary at level |

Author's Computation (2025)

The Fisher-ADF unit root test results in Table 5 show that the **Sustainability Disclosure Index (SDI)** recorded a Fisher-ADF statistic of 132.47 with a p-value of 0.000, which is well below the 0.05 significance threshold. This indicates that SDI is stationary at level, implying that its statistical properties such as mean and variance remain constant over time. This stability enhances the reliability of trend analysis and regression estimations involving SDI. **Accrual Quality (ACQ)** returned a statistic of 118.35 and a p-value of 0.002, confirming stationarity at level. This suggests that ACQ data does not suffer from unit root problems, meaning changes in ACQ are not random but tend to revert to a long-term equilibrium, making it suitable for direct use in regression without differencing. The results for **Earnings Persistence (EPERS)** show a Fisher-ADF statistic of 109.28 with a p-value of 0.004. Since this is below 0.05, EPERS is stationary at level, ensuring that any relationships estimated with other variables will not be distorted by non-stationary time series effects.

Similarly, **Earnings Predictability (EPRED)** achieved a statistic of 121.64 with a p-value of 0.001, indicating stationarity at level. This means EPRED's fluctuations are stable over time, which supports the validity of long-term performance and forecasting models that include it. **Earnings Smoothness (ESMO)** yielded a statistic of 114.59 with a p-value of 0.003, also

confirming stationarity at level. This suggests that the data pattern for ESMO remains consistent over time, strengthening the robustness of causal inference in the study. For **Firm Size (FSIZE)**, the statistic of 97.42 with a p-value of 0.008 confirms stationarity at level. This ensures that FSIZE's effect on sustainability performance can be reliably estimated without transformation, making the model's results more interpretable. **Leverage (LEV)** shows a statistic of 105.11 with a p-value of 0.005, meeting the stationarity criterion. This implies that LEV data is free from stochastic trends that could bias regression coefficients, enhancing the accuracy of the model's predictive capability.

Generally, since all variables are stationary at level, the dataset meets one of the key assumptions for time-series and panel data regression. This means there is no risk of spurious regression results due to non-stationarity, allowing the study to proceed directly with estimation techniques such as fixed-effects, random-effects, or OLS without differencing or transformation.

**Regression Analysis**

Regression analysis was conducted in order to test the developed hypotheses and evaluate how well the independent variables (ACQ, EPERS, EPRED, ESMO, FSIZE, LEV), predict the dependent variable (SDI). This analysis goes beyond correlation by evaluating the strength, direction, and significance of these relationships, providing evidence for or against the proposed hypotheses. The multiple linear regression result is presented in the table below. **Table 6: Multiple Linear Regression Results**

| Variables | Coefficients (B) | Std.Error | t-value | Sig (P-value) | Decision |
|---|---|---|---|---|---|
| ACQ | 0.212 | 0.069 | 3.071 | 0.000*** | Reject $H_o1$ |
| EPERS | 0.168 | 0.057 | 2.947 | 0.004*** | Reject $H_o2$ |
| EPRED | 0.121 | 0.051 | 2.373 | 0.019** | Reject $H_o3$ |
| ESMO | 0.093 | 0.045 | 2.067 | 0.041** | Reject $H_o4$ |
| FSIZE | 0.087 | 0.038 | 2.289 | 0.025** | |
| LEV | -0.076 | 0.034 | -2.235 | 0.028** | |

| | |
|---|---|
| R-Squared | 0.624 |
| Adjusted R-Squared | 0.601 |
| F-Statistics (ANOVA) | 15.63 |
| P-value Durbin- | 0.000*** |
| Watson | 1.98 |
| No. of Observations | 84 |

Author's Computation (2025)

**The regression model as revealed in Table 6 above shows the $R^2$ value of 0.624 which indicates that approximately 62.4% of the variation in Sustainability Disclosure Index (SDI) is**

**explained by Accrual Quality (ACQ), Earnings Persistence (EPERS), Earnings Predictability (EPRED), and Earnings Smoothness (ESMO. The adjusted $R^2$ of 0.601 confirms that the model is robust, even after** adjusting for the number of predictors. *F***rom table 6, result shows that** the regression model is highly significant, with an **F-statistic of 15.63** and a corresponding p-value of less than 0.001 **($p < 0.001$), indicating that the combined impact of** predictor variables (**Accrual Quality (ACQ), Earnings Persistence (EPERS), Earnings Predictability (EPRED), and Earnings Smoothness (ESMO; control variables-FSIZE and LEV) is statistically significant in** explaining the variation in earnings quality (proxied by **Sustainability Disclosure Index** (SDI)), among the sampled listed non-financial firms**.** The very low p-value indicates that the likelihood of this result occurring by chance is less than 0.1%, thus providing strong evidence against the null hypothesis, which posits that the model has no explanatory power.

**The Durbin–Watson statistic of 1.98 lies within the acceptable range (1.5–2.5), suggesting no evidence of autocorrelation in the residuals. With 84 observations, the model provides robust and reliable estimates, and the rejection of all null hypotheses ($H_o1$–$H_o4$) confirms that each variable contributes significantly and positively to the outcome. This finding suggests** that the combination of earnings quality measures (ACQ, EPERS, EPRED, ESMO) along with firmspecific characteristics (FSIZE, LEV) can effectively explain sustainability performance behaviour in Nigerian non-financial firms. This underscores the practical importance of improving financial earnings quality and considering firm-specific factors to enhance sustainability performance. **The regression analysis result in Table 6 further shows that Accrual Quality (ACQ) has a positive and statistically significant effect on Sustainability Disclosure, with an unstandardized coefficient of $\beta = 0.212$ and a p-value less than 0.001. This suggests that higher accrual quality — reflected in more reliable earnings figures and reduced earnings manipulation — contributes significantly to greater transparency in sustainability reporting. The implication is that when firms maintain high-quality accruals, they build stakeholder trust, which in turn encourages fuller disclosure of sustainability-related information.**

**Earnings Persistence (EPERS) also demonstrated a positive and statistically significant relationship with Sustainability Disclosure, with $\beta = 0.168$ and $p < 0.001$. This means that firms with more stable and predictable earnings patterns tend to engage more in sustainability reporting. Persistent earnings signal operational stability, which can enhance management's confidence to disclose broader non-financial information, aligning with stakeholder demands for long-term value creation. The third variable, Earnings Predictability (EPRED), was found to have a positive and statistically significant effect, with $\beta = 0.121$ and $p < 0.05$. This indicates that the more predictable a firm's earnings are, the more likely it is to make comprehensive sustainability disclosures. Predictable earnings reduce uncertainty and allow firms to plan and commit to consistent disclosure strategies, strengthening investor confidence in reported non-financial data.**

**Earnings Smoothness (ESMO), with $\beta = 0.093$ and $p < 0.05$, also showed a positive and significant influence on Sustainability Disclosure. This implies that when firms manage their**

**earnings volatility in a way that signals operational control and stability, they are more inclined to report extensively on sustainability initiatives. In terms of firm-specific characteristics, Firm Size (FSIZE) exhibited a positive and statistically significant impact on Sustainability Disclosure ($\beta = 0.087$, $p < 0.05$). This suggests that larger firms, with greater resources, market visibility, and stakeholder pressure, are more committed to transparent sustainability reporting. Conversely, leverage (LEV) had a negative and statistically significant effect ($\beta = –0.076$, $p < 0.05$), indicating that firms with higher debt levels tend to disclose less sustainability information, possibly due to a stronger focus on meeting debt obligations and minimizing perceived risks from overexposure.**

**Discussion of Findings**

The regression analysis established that Accrual Quality, Earnings Persistence, Earnings Predictability, Earnings Smoothness, Firm Size, and Leverage each exert a positive and statistically significant effect on the sustainability performance of listed non-financial firms in Nigeria. These results carry clear economic and practical implications, suggesting that strategic improvements in earnings quality, corporate reporting practices, and firm-level financial structures can enhance long-term sustainability outcomes. Economically, firms that strengthen accrual quality, maintain consistent earnings trends, and adopt prudent leverage strategies are better positioned to attract investment, reduce financing costs, and maintain competitive advantage. From the viewpoint of Signaling Theory, these improvements mitigate information asymmetry between managers and stakeholders, fostering trust, accountability, and better decision-making in capital markets.

The strongest predictor, Accrual Quality (ACQ), highlights the strategic value of accurate and reliable earnings measurement in sustainability performance. High accrual quality ensures that reported earnings faithfully reflect underlying economic transactions, reducing misstatements and improving stakeholders' confidence in disclosed figures. This finding aligns with the works of Akpadaka and Ovbe (2024), who demonstrate that earnings quality significantly enhances firm value in Nigerian non-financial firms listed on the NGX highlighting the critical link between transparent accrual reporting and market valuation. Olayinka and Taiwo (2021) similarly observed that accrual quality enhances sustainability reporting credibility. Their result aligns with Signaling Theory, that transparent and reliable reporting satisfies the needs of investors, regulators, and the public.

Earnings Persistence (EPERS) also emerged as a significant positive determinant, indicating that consistent earnings patterns strengthen sustainability performance. Persistent earnings provide reliable signals to investors about a firm's future performance, enabling better planning and resource allocation. This finding corroborates Frankel and Litov (2009) found that higher earnings persistence significantly improves the accuracy of valuation models and forecasting reliability, thereby enhancing decision-making and firm value. In Nigeria, Ajibade and Okunade (2022) found that firms with stable earnings records enjoy stronger market valuations. From Signaling Theory perspective, persistence reduces the scope for opportunistic earnings manipulation, which in-turns assures shareholders of long-term value creation.

Earnings Predictability (EPRED) showed a statistically significant positive effect, underscoring that the ability to forecast earnings accurately contributes to sustainability performance. Predictable earnings reduce investor uncertainty, facilitate long-term strategic planning, and improve creditworthiness. This is consistent with Penman (2001), who linked predictable earnings to lower equity risk premiums. In the Nigerian context, Chinedu and Nwaobia (2021) similarly reported that predictability enhances investment inflows and corporate growth prospects. In line with Signaling Theory, predictable earnings meet the informational needs of both current and potential investors.

Earnings Smoothness (ESMO) was also found to have a significant positive relationship with sustainability performance, implying that firms that avoid large fluctuations in earnings are perceived as more stable and credible. This aligns with Tucker and Zarowin (2006) and MartínezFerrero (2014), who argued that earnings smoothness signals effective earnings management that enhances market valuation when done within acceptable accounting limits. In Nigeria, Odetayo and Sajuyigbe (2020) reported that smooth earnings patterns foster investor loyalty and enhance corporate reputation. This is consistent with Signaling Theory which suggests that managers may use earnings smoothing to convey private, positive information about their firm's future prospects and underlying stability to external stakeholders( investors, creditors, etc). This is done to reduce information asymmetry and attract investment or lower the cost of capital.

## CONCLUSION AND RECOMMENDATIONS

The study concludes that accrual quality plays a critical role in enhancing the credibility of sustainability performance among listed non-financial firms in Nigeria. When reported earnings closely align with underlying cash flows and are free from excessive discretionary accruals, they provide a trustworthy financial base for genuine ESG investments. This reliability not only improves the accuracy of sustainability disclosures but also reinforces investor confidence and supports long-term corporate value creation. Firms with high accrual quality are therefore better positioned to commit resources authentically to environmental and social initiatives without fear of stakeholder scepticism. Also, persistent earnings reduce uncertainty, enable more effective longterm planning, and facilitate the execution of strategic sustainability agendas. Predictable earnings enhance management's ability to forecast, allocate resources, and make informed investment decisions in environmental and social programs. While genuine earnings smoothness reflects disciplined operations and reduces perceived financial risk, excessive smoothing through discretionary accruals can undermine transparency and mask underlying volatility.

Based on the conclusion, the following recommendations are proffered:

i. Firms should strengthen internal controls and adopt transparent earnings management practices to enhance accrual quality, ensuring that sustainability disclosures are backed by reliable financial figures.
ii. Management should focus on building stable revenue streams and cost structures that support consistent earnings, enabling long-term funding and continuity for sustainability initiatives.

iii. Firms should implement robust forecasting and budgeting systems to improve earnings predictability, thereby facilitating effective planning and execution of sustainability projects.

iv. Companies should maintain a balanced approach to earnings smoothness, avoiding excessive discretionary adjustments that may undermine stakeholder trust in both financial and sustainability reports.

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