

An Assessment of the Status of the Environmental, Social, and Governance (ESG) Banking Practices in Relation to the Promotion of Sustainable Environmental Management in Nigeria

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ABSTRACT

The research aimed at Assessing the Status of the Environmental, Social, and Governance (ESG) Banking Practices in Relation to the Promotion of Sustainable Environmental Management in five banks at Lagos Headquarters, Nigeria with the objectives of evaluating the extent to which Nigerian banks have adopted ESG practices; examining the influence of ESG practices on environmental sustainability outcomes in Nigeria; identifying challenges limiting ESG implementation in Nigerian banks; and proposing strategies for enhancing ESG integration in the banking sector. Data on ESG in Banking were also needed such as data on risk management, energy-saving, waste reduction, staff training, decision making, compliance level, and standard operating procedures. The target population comprised staff in the selected five banks (First Bank, UBA, GTB, Access and Zenith Bank) in Nigeria, particularly those recognized for implementing ESG initiatives. A sample size of at least 241 respondents out of the entire population (606 Personnel) was the lowest acceptable number of respondents to maintain a 95% confidence level and a margin of error of 5%. 405 respondents answered the questions but only 358 respondents filled the forms correctly. 2-Factor ANOVA was adopted to test the null hypothesis 1 (H_{01}) which stated that there is no significant relationship between the perception of the positive impact of the adoption of ESG practices and the promotion of sustainable environments by Nigerian banks. On the basis of the above calculation, the null hypothesis H_{01} was rejected and the alternative hypothesis H_{11} was accepted since the calculated value FO_{tt1} which is 13.14 is greater than the table value FO_{tt1} (table value which is 6.39. and the calculated $FO_{tt2} = 0.013 < FO_{tt2}$ table value (224.58) at (0.05; 1, 4). It is concluded that factor 1 which is the promotion of sustainable environment through ESG by Nigerian banks significantly affects proportionately, factor 2 which is the perception of the positive impact of the adoption of ESG practices in the study area. It is concluded that the regular participation in the ESG activities by the banking institutions is of paramount importance in the protection of the ecosystem and the sustainability of the environment. The recommendations drawn from the study are that there should be regular conduction of environmental management workshop, enforcement of best work practice, and Increased participation of host community members in environmental management.

Keywords: Environment, Governance, Sustainability, Social, Integration.

INTRODUCTION

Over the last decade, environmental, social, and governance (ESG) considerations have moved from the margins of corporate social responsibility into the core of financial sector regulation and strategy worldwide. In banking, ESG integration is increasingly framed as a means of aligning financial intermediation with sustainable development objectives by internalizing environmental and social risks and directing capital towards less harmful, more inclusive economic activities. Nigeria has been a prominent early mover in Africa:

in 2012, the Central Bank of Nigeria (CBN) and the Bankers' Committee launched the Nigerian Sustainable Banking Principles (NSBPs), a set of nine principles and sector guidelines designed to embed environmental and social risk management, environmental footprint reduction, financial inclusion, human rights, women's economic empowerment and ESG governance into banking operations and lending decisions (Central Bank of Nigeria, 2012; ESG Advisory Associates, 2018; PWC, 2021).

Evidence from industry reviews indicates that Nigerian banks have since developed environmental and social risk management systems, sustainability policies, and various footprint-reduction initiatives, and many now publish annual sustainability or citizenship reports aligned with international frameworks such as the Global Reporting Initiative (GRI) (ESG Advisory Associates, 2018; IFC/SBN, 2019). Banks have also adopted innovations such as automated environmental and social risk screening portals, waste-recycling programmes, energy-efficiency retrofits, inclusive finance products, and women-focused initiatives, suggesting that ESG is increasingly embedded in institutional processes (ESG Advisory Associates, 2018). At the same time, CBN and other regulators have introduced complementary measures such as green bond rules, sustainable finance roadmaps, and reporting templates for green lending and climate risk exposure, further consolidating the policy architecture for sustainable banking in Nigeria (PwC, 2021).

CONCEPT AND REVIEW OF RELATED WORKS

The expansion of ESG policies and practices has not automatically translated into clear, measurable improvements in environmental outcomes or a large-scale reorientation of credit towards low-carbon, resource-efficient sectors. The NSBP five-year industry review reports that implementation has been uneven across the nine principles, that sustainability governance (Principle 6) lags behind other areas, and that banks face challenges related to the absence of common sustainability key performance indicators (KPIs), limited top-management commitment in some institutions, skills gaps, and weak data on environmental and social performance (ESG Advisory Associates, 2018).

Recent empirical work on Nigerian banks further shows that ESG-related initiatives, often proxied through CSR or ESG disclosure, have complex and sometimes asymmetric relationships with financial performance. For example, Ariyibi et al. (2024) find that corporate social responsibility (CSR) affects non-performing loans and net interest income in different ways, while Modibbo and Kuwa (2025) report that governance and social pillars tend to enhance bank valuation more clearly than environmental practices, which may impose short-term costs. Yet the specific question of how far ESG banking practices, as operationalized through the NSBPs and related frameworks, contribute to sustainable environmental management in Nigeria remains under-examined.

This study, therefore, assesses the status of ESG banking practices in Nigeria and how far they support sustainable environmental management, using primary data collected through structured questionnaires administered to bankers and selected customers of deposit money banks. Drawing on respondents' perceptions and experiences, alongside relevant regulatory documents and industry reports, the research examines (i) how ESG principles have been implemented in Nigerian banks since the adoption of the NSBPs, (ii) how ESG practices are perceived to intersect with environmental risk management, green finance and environmental footprint reduction, and (iii) what gaps and constraints, from both bank and customer perspectives, limit the environmental effectiveness of ESG-driven banking in the Nigerian context.

Globally, sustainable banking and finance are defined by the integration of environmental, social, and governance criteria into traditional risk–return analysis, making ESG benefits a key objective alongside financial performance (ESG Advisory Associates, 2018). ESG and socially responsible investment (SRI) trends have expanded rapidly, with global sustainable investment estimated at around one-quarter of professionally managed assets by the late 2010s, and ESG considerations spreading from equities to fixed-income markets, including green bonds. The Task Force on Climate-related Financial Disclosures (TCFD), established by the G20 Financial Stability Board in 2015, has encouraged companies and financial institutions to disclose climate-related financial risks and opportunities; by 2018, hundreds of major banks, asset managers and

pension funds managing nearly USD 100 trillion in assets had expressed support for its recommendations (ESG Advisory Associates, 2018; Ozoemena et al 2026).

Within this global context, ESG banking is increasingly framed as a three-dimensional decision process balancing risk, return, and impact, in which environmental and social externalities are explicitly considered in credit allocation and portfolio management. International standards such as the IFC Performance Standards, the Equator Principles, the UN Global Compact, and emerging green taxonomy frameworks serve as reference points for national regulators and banks in developing their own sustainable banking guidelines (ESG Advisory Associates, 2018).

The Nigerian Sustainable Banking Principles were introduced in 2012 as a collaborative initiative between the CBN and the Bankers' Committee to ensure that the banking sector serves as "a veritable platform for addressing environmental and social issues such as pollution, poverty, human rights, financial inclusion [and] women's empowerment" (ESG Advisory Associates, 2018). The nine principles cover environmental and social risk management, environmental and social footprint, human rights, women's economic empowerment, financial inclusion, ESG governance, capacity building, collaboration and reporting, and are accompanied by sector guidelines for high-impact sectors such as power, oil and gas, and agriculture (Central Bank of Nigeria, 2012; ESG Advisory Associates, 2018).

The NSBP five-year industry report finds that banks operating in Nigeria have "made some progress in the implementation of the NSBPs across the nine principles," including the establishment of environmental and social risk management systems, footprint-reduction initiatives, and community investments, but those innovation do not cut across all principles equally (ESG Advisory Associates, 2018). Principle 1 (environmental and social risk management) and Principle 2 (environmental and social footprint) have been implemented substantively through ESRM (Environmental and Social Risk Management) frameworks, automated screening portals, energy-efficiency measures, waste-recycling initiatives, and paper-reduction policies. In contrast, Principle 6 (sustainability governance) is relatively weaker due to inadequate attention to governance roles, undefined sustainability career paths, and limited board-level engagement in some banks (ESG Advisory Associates, 2018).

Case narratives in the industry report illustrate how individual banks have operationalised the NSBPs. Access Bank, for example, developed an ESRM framework integrated into its credit portal, introduced CO₂ and resource-efficiency monitoring across branches, deployed solar power in multiple locations, and established a dedicated sustainability team, while also chairing the NSBP Steering Committee and playing leadership roles in global initiatives (ESG Advisory Associates, 2018). Other Banks such as, Fidelity Bank, Sterling Bank, Zenith Bank, and Wema Bank, report achievements including reductions in paper use and energy consumption, adoption of recycling programmes, development of inclusive finance and women-empowerment products, and integration of environmental and social risk checks into credit appraisal processes.

Empirical studies on Nigerian banks have traditionally focused on CSR and financial performance, but recent work increasingly uses broader ESG constructs. Ariyibi et al. (2024) examine the impact of CSR on the financial performance of deposit money banks in Nigeria using panel data from 2017 to 2022 and panel regression models. They operationalise CSR using both an investment-based measure (actual CSR spending) and a binary indicator (presence/absence of CSR initiatives) and analyse their effects on non-performing loans and net interest income as performance proxies (Ariyibi et al., 2024). The study finds that CSR measured via the investment approach has a statistically significant positive influence on non-performing loans, while the binary CSR measure has a significant negative effect on net interest income, suggesting that different forms of CSR engagement may affect risk and profitability in contrasting ways.

Ogboi, Alalade, Oliyide, and Momah (2024) confirmed that ESG disclosure substantially improves financial performance, particularly through environmental reporting, while social costs had limited influence and board diversity showed a negative effect. Ozoemena, Gide, and Akinyebi (2026) extended the discussion to green finance, situating Nigeria within global comparisons. They highlighted proactive policy frameworks such as

the Sustainable Banking Principles, Climate Change Act, and sovereign green bonds, while identifying challenges including infrastructure deficits and limited financial inclusion.

Kaoje and Adeniyi (2025) evaluated the extent and impact of ESG principles integration in Nigerian financial institutions. Governance-related ESG practices were more comprehensively documented, while environmental and social aspects remained inadequately addressed. Chijuka and Obahiagbon (2025) examined ESG commitments and financial returns in Nigerian listed banks between 2018 and 2024. Their findings revealed that all three ESG dimensions, environmental, social, and governance, positively and significantly influence return on equity, with governance exerting the strongest effect. Odewole et al. (2025) explored the relationship between ESG considerations and capital structure in Nigerian deposit money banks. They found no significant bi-directional relationship between ESG disclosure and capital structure, suggesting that Nigerian capital markets may not yet fully integrate ESG into financing decisions.

Ogunmola et al. (2026) examined the effect of green policy frameworks on the environmental performance of listed Nigerian banks. Their study found that current green policy frameworks had a negative and insignificant effect on environmental performance, but their lagged values showed a positive and significant impact, suggesting that green policies improve environmental outcomes only over time. Omodu (2026) evaluated the impact of CSR initiatives on organizational performance in United Bank for Africa (UBA). The study found that UBA's CSR programs, such as Read Africa, National Essay Competition, Food Bank, and Women Sustainable Finance, positively contributed to community development, employee morale, brand reputation, and financial performance. Onwuliri et al. (2025) examined the extent of ESG practices of Nigerian deposit money banks featured in S&P Global ratings. Their findings revealed that Zenith Bank and UBA performed impressively compared to industry averages but still lagged behind global counterparts. They recommended greater adoption of cleaner energy technologies and stronger sector-wide ESG regulations to standardize practices and reduce emissions. Otseme et al. (2025) investigated the impact of ESG disclosures on the financial performance of listed manufacturing firms in Nigeria. Using Economic Value Added (EVA) as a proxy, they found that environmental disclosure had a statistically significant but negative effect on firm performance, while social and governance disclosures showed no significant effect.

Finally, Yahaya (2026) provided one of the most comprehensive multi-sector analyses of ESG practices and financial performance in Nigeria, covering 151 listed firms across 12 sectors between 2011 and 2025. Using system GMM (Generalized Method of Moments) estimation to address endogeneity, the study found that ESG practices exert a statistically significant and positive effect on return on assets, return on equity, and Tobin's Q. Governance scores consistently yielded the strongest impact, followed by social and environmental dimensions. This evidence firmly supports stakeholder and legitimacy theories, demonstrating that ESG adoption in Nigeria is not merely reputational but a genuine driver of financial value creation.

Taken together, the reviewed studies reveal a consistent yet nuanced narrative: ESG practices in Nigeria's banking and corporate sectors are increasingly recognized as drivers of financial performance, market valuation, and stakeholder legitimacy, though their effects vary across dimensions and contexts. Governance emerges as the most reliable pillar, repeatedly shown to strengthen profitability, investor confidence, and market value, while social initiatives enhance reputation, customer loyalty, and stock price behavior. Environmental practices, however, often present mixed or even negative short-term effects due to compliance costs, though evidence suggests they yield long-run sustainability benefits when embedded in robust policy frameworks. Importantly, while sector-specific studies, particularly in banking, demonstrate positive ESG–performance linkages, broader multi-sector analyses confirm that these relationships hold across Nigeria's listed firms, with governance and social factors exerting the strongest causal influence. Yet gaps remain: environmental reporting is underdeveloped, capital structure linkages are weak, and many ESG initiatives risk being symbolic rather than transformative. This synthesis underscores the need for integrative, context-sensitive research that not only evaluates ESG's financial impact but also interrogates its role in advancing sustainable environmental management. Building on these insights, the present study contributes by situating ESG practices within Nigeria's evolving regulatory and institutional landscape, offering fresh evidence on how sustainability commitments can be strategically leveraged to balance profitability, market value, and long-term ecological responsibility.

RESEARCH METHOD

Descriptive survey design was adopted in this study. The design allowed the researcher to collect quantitative data from a cross-section of respondents and analyze patterns, relationships, and trends regarding ESG banking practices and sustainability. The design also accommodates using primary and secondary data sources to gain a holistic understanding of the phenomenon under investigation. The data needed for this research include biometric data such as age, sex, educational qualification, and population of the study area. Data on Environmental, Social, and Governance in Banking were also needed. That is data on risk management, energy-saving, waste reduction, staff training, decision-making, compliance level, and standard operating procedures. The target population was corporate Headquarters staff in the sustainability, corporate responsibility, and risk departments of the five big commercial banks in Nigeria. They are First Bank, UBA, GTB, Access Bank, and Zenith Bank, also referred to as the big FUGAZ.

Sample Frame and Sample Size

The sample frame which is the population of the Staff of the Big FUGAZ at Lagos Headquarters was used to calculate the sample size of the population used in the research (Table 1), while random sampling was applied in distributing the questionnaires among the Headquarters staff. Both soft and hard copies of the questionnaire were used.

Table 1: Population of the Staff of the Big FUGAZ at Lagos Headquarters

s/n	Bank	Sample frame
1	First Bank	123
2	UBA	147
3	GTB	106
4	Access Bank	117
5	Zenith	113
TOTAL		606

Yamane (1967) developed a statistical formula that is generally acceptable for the determination of sample size in relation to the population under study so that inferences and conclusions reached after the survey can be generalized to the entire population from which the sample is got. The total population of the five chosen banks is 606 (see Table 1).

The Taro Yamane statistical formula is given thus:

$$n = \frac{N}{1 + N(e)^2} \quad \text{equation 1.}$$

Where n = required sample size from the population under study

N = total population under study

e = precision or sampling error (0.05)

$$n = \frac{606}{1 + (606 \times 0.0025)}$$

$$= \frac{606}{1 + 1.515}$$

$$n = \frac{606}{2.515}$$

$$n = 240.9 \text{ approximately } 241 \text{ respondents}$$

A sample size of 241 respondents out of the entire population of 606 people would be the lowest acceptable number of respondents to maintain a 95% confidence level. The rationale for the administration of 405 questionnaires owed to the fact that the level of confidence and accuracy increases with the number while the minimum must be 241 respondents. Table 2 shows the various sources of population and the sample size randomly distributed to the respondents in the study area. The proportion of each sample size is got from the percentage of each population multiplied by 405 questionnaires for the 5 chosen banks. The calculated questionnaires were distributed randomly to the members of staff of each of the banks selected.

Table 2: The various sources of population and the sample from the study area.

S/N	Respondents	Population	Proportion of the sample size
1	First Bank PLC	123	82
2	UBA PLC	147	98
3	GTB PLC	106	71
4	Access Bank PLC	117	78
5	Zenith Bank PLC	113	76
	Total	606	405

Researcher's field survey, (2025)

Table 3: Analyses of Questionnaires Distributed in the Study Area

S/N	Respondents	Questionnaires distributed	Questionnaires returned	Percentage returned (%)
1	First Bank PLC	82	73	89.0
2	UBA PLC	98	82	83.7
3	Guaranty Trust Bank PLC	71	68	95.8
4	Access Bank PLC	78	64	82.1
5	Zenith Bank PLC	76	71	93.4
	Total	405	358	88.4

Researcher's field survey, (2025)

Table 3 reveals that a total of 405 questionnaires distributed. Out of the total number distributed, only 358 copies of the questionnaires were properly filled and returned and this makes up 88.4% of the total questionnaires distributed amongst the randomly selected members of staff of the 5 banking institutions.

Sources of Data

• Primary Data

Primary data such as age, sex, educational qualification, and population of the study area were obtained through structured questionnaires and distributed electronically and physically to the staff of selected banks.

• Secondary Data

Secondary data were collected from annual reports, sustainability disclosures, ESG performance rankings, CBN publications, and reports from regulatory bodies such as the NGX and UNDP.

Research Instrument

The main research instrument was a set of structured questionnaires divided into four sections:

1. Demographic Profile of Respondents
2. Awareness and Implementation of ESG Practices
3. Impact of ESG on Environmental Sustainability

4. Perceived Barriers and Opportunities in ESG Integration

A 5-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree” was used for most questions.

Validity and Reliability of the Instrument

To ensure content validity, the questionnaire was reviewed by the supervisors and other academic experts in sustainability and banking.

Method of Data Analysis

Descriptive statistics such as frequencies, percentages, and means were used to summarize data. 2-Factor ANOVA was adopted to validate null hypothesis 1 (H_{01}).

TEST OF NULL HYPOTHESIS 1 (H_{01})

H_{01} : There is no significant relationship between the perception of the positive impact of the adoption of ESG practices and the promotion of sustainable environments by Nigerian banks.

Statistical technique: 2-Factor Analysis of Variance (ANOVA) was used in testing null hypothesis 1 (H_{01}). Factor 1 showed the promotion of sustainable environment through ESG by Nigerian banks while Factor II showed the 5-year perception of the positive impact of the adoption of ESG by Nigerian banks from October 2015 and October 2020. The test was carried out at 95% level of confidence. Table 4 is the table through which computations for Table 5A (factor 1) and table 5.B (factor 2) were done.

Table 4: Impact of ESG on Environmental Sustainability

Impacts	Strongly disagree 1	Disagree 2	Neutral 3	Strongly agree 4	Agree 5	Total
ESG banking practices have helped reduce environmental degradation	28	33	21	159	107	358
My bank finances environmentally friendly projects	22	29	39	162	106	358
Our ESG initiatives contribute to climate change mitigation	21	22	28	137	149	358
ESG has improved our corporate image in the public eye	17	26	48	135	122	358
Our bank promotes energy-saving and waste-reduction policies	21	36	72	116	113	358

Source: Researcher’s field survey (2025)

Table 5A represents Factor 1 that shows the promotion of sustainable environment through ESG by Nigerian banks while Factor II shows the 5-year perception of the positive impact of the adoption of ESG by Nigerian banks (October 2015 to September 2020).

Table 5B represents Factor 1 that shows the promotion of sustainable environment through ESG by Nigerian banks while Factor II shows the bi-annual perception of the positive impact of the adoption of ESG by Nigerian banks (October 2020 to August 2025).

Table 5A: Factor 1 that shows the promotion of sustainable environment through ESG by Nigerian banks and Factor II that shows the 5-year perception of the positive impact of the adoption of ESG by Nigerian banks severity (October 2015 to September 2020).

Factor 1 Positive Impacts	ESG banking practices have helped reduce environmental degradation	My bank finances environmentally friendly projects	Our ESG initiatives contribute to climate change mitigation	ESG has improved our corporate image in the public eye	Our bank promotes energy-saving and waste- reduction policies	Total (yi)
Factor II Perception Oct. 2015 to Sept. 2020						
Strongly Disagree	39	32	33	38	39	181
Disagree	33	39	31	37	46	186
Neutral	47	91	61	79	72	350
Strongly Agree	122	102	125	93	99	541
Agree	107	94	107	111	102	521
Total (yi)						Total (yi) = 1,779

Sources: Lawal, Nageri, & Olanipekun, (2020), **Shakil, Mahmood, Tasnia, & Munim**, (2021).

Table 5B represents Factor 1 that shows the promotion of sustainable environment through ESG by Nigerian banks while Factor II shows the 5-year perception of the positive impact of the adoption of ESG by Nigerian banks severity (October 2020 to August 2025).

Table 5B: Factor 1 that shows the promotion of sustainable environment through ESG by Nigerian banks and Factor II that shows the 5-year perception of the positive impact of the adoption of ESG by Nigerian banks severity (October 2020 to August 2025).

Factor 1 Positive Impacts	ESG banking practices have helped reduce environmental degradation	My bank finances environmentally friendly projects	Our ESG initiatives contribute to climate change mitigation	ESG has improved our corporate image in the public eye	Our bank promotes energy-saving and waste- reduction policies	Total (yi)
Factor II Perception Oct. 2020 to Aug. 2025						
Strongly Disagree	28	22	21	17	21	109
Disagree	33	29	22	26	36	146
Neutral	21	39	28	48	72	208
Strongly Agree	159	162	137	135	116	709
Agree	107	106	149	122	113	597
Total (yi)						Total (yi) = 1,769

Source: Researcher's Computation (2025)

Table 5C: 2-Factor ANOVA Table of the promotion of sustainable environment through ESG by Nigerian banks in relation to the perception of the positive impact of the adoption of ESG by Nigerian banks severity

YEAR	FACTOR 1 The promotion of sustainable environment through ESG by Nigerian banks (Reduction of environmental degradation, environmentally-friendly projects, Climate change mitigation, reputation of the corporate image, energy-saving and waste reduction)					(y _j) TOTAL
FACTOR 2	Strongly Disagree	Disagree	Neutral	Strongly Agree	Agree	
Oct. 2015 to Sept. 2020	181	186	350	541	521	1779
Oct. 2020 to Aug. 2025	109	146	208	709	597	1769
TOTAL (y _i)	290	332	558	1250	1118	3548

Source: Researcher's Computation (2025)

$$SSE = SST - SS_{t1} - SS_{t2}$$

SST = Total Sum of Squares

SSE = Sum of squared errors

SS_{t1} = Sum of squares for treatment factor 1

SS_{t2} = Sum of squares for treatment factor 2

d.f₁ = degree of freedom for treatment 1 = t-1 = 5 – 1 = 4

t = number of columns = 5

d.f₂ = degree of freedom for treatment 2 = k-1 = 2 – 1 = 1

k = number of rows = 2

$$SST = \sum y_{ij}^2 - y^2/kt = \{ (181)^2 + (109)^2 + (186)^2 + (146)^2 + (350)^2 + (208)^2 + (541)^2 + (709)^2 + (521)^2 + (597)^2 \} - (3548)^2/2*5$$

$$= 32761 + 11881 + 34596 + 21316 + 122500 + 43264 + 292681 + 502681 + 271441 + 356409 - (12588304/10)$$

$$SST = 1689530 - 1258830.4$$

$$SST = 430,699.6$$

$$SS_{t1} = 1/k \sum y_i^2 - y^2/kt = 1/2 \{ (290)^2 + (332)^2 + (558)^2 + (1250)^2 + (1118)^2 \} - (3548)^2/2*5$$

$$(84100 + 110224 + 311364 + 1562500 + 1249924)/2 - 1258830.4$$

$$SS_{t1} = (3318112/2) - 1258830.4$$

$$SS_{t1} = 1659056 - 1258830.4$$

$$SS_{t1} = 400,226$$

$$SS_{t2} = 1/t \sum y_j^2 - y^2/kt = 1/4 \{ (1779)^2 + (1769)^2 \} - (3548)^2/2*5$$

$$SS_{t2} = (3164841 + 3129361)/4 - 1258830.4$$

$$SS_{\text{trt2}} = (6294202)/5 - 1258830.4$$

$$SS_{\text{trt2}} = 1258840 - 1258830.4$$

$$SS_{\text{trt2}} = 9.6$$

$$SSE = SST - SS_{\text{trt1}} - SS_{\text{trt2}}$$

$$SSE = 430699.6 - 400,226.0 - 9.6$$

$$SSE = 30,464$$

Table 6: 2-Factor ANOVA Table showing the mean squares and observed frequencies for Factor 1 and Factor 2.

Degrees of freedom (df)	Sum of Squares (SS)	Mean Squares (MS)	Observed Frequency (FO)
Factor 1 = (t - 1) = 4	400,226.0	100,056.5	13.14
Factor 2 = (k - 1) = 1	9.6	9.6	0.0013
Error (k - 1) (t - 1) = 4	30,464	7,616	
Total = 9	430,699.6		

Source: Researcher's computation (2025)

To determine if Factor 1 or Factor 2 is statistically significant, you would compare the F_0 values to the critical F-value from an F-distribution table at a chosen significance level (0.05) based on the df values. Typically, a larger F_0 suggests a significant effect if it exceeds the critical value.

$$FO_{\text{trt1}} = 13.14 > FO_{\text{trt1}} (6.39) \text{ at } (0.05; 4, 4), FO_{\text{trt2}} = 0.0013 < FO_{\text{trt2}} (224.58) \text{ at } (0.05; 1, 4)$$

On the basis of the above calculation, we reject the null hypothesis H_{01} and accept the alternative hypothesis H_{11} since the calculated value FO_{trt1} calculated which is 13.14 is greater than the table value FO_{trt1} (table value which is 6.39. and the calculated $FO_{\text{trt2}} = 0.013 < FO_{\text{trt2}}$ table value (224.58) at (0.05; 1, 4). It is concluded that factor 1 which is the promotion of sustainable environment through ESG by Nigerian banks significantly affects factor 2 which is the perception of the positive impact of the adoption of ESG practices in the study area.

SUMMARY OF FINDINGS

The study revealed that the perception of the positive impact of the adoption of ESG practices in the study area increases as the promotion of sustainable environment through ESG by Nigerian banks increases. The evidence was the span of 10 years surveys conducted in two fragments (October 2015 to September 2020) and (October 2020 to August 2025). It is also revealed that the ESG-related initiatives implemented by Nigerian banks are significantly related to the environmental sustainability in the study area.

CONCLUSION

It was concluded that regular participation in the ESG activities by the banking institutions is of paramount importance in the protection of the natural ecosystem, asset protection and the sustainability of the environment in the study areas.

RECOMMENDATIONS

The following recommendations were made for the sustainability of the environment in the study area:

- Reviewing of the environmental laws and ensuring the collective responsibilities of the banking institutions, government and host community members in ESG activities.

- Integration of Environmental Management into the business plan to ensure adequate protection of host community and enforcement,
- Regular conduction of environmental management workshop, environmental management gap analysis, and enforcement of best work practice, and
- Increased participation of host community members in environmental management.

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