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Environmental Accounting Readiness of SMEs: Barriers to Adoption and Digital Solutions in Plateau State

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ABSTRACT

This study examined the environmental accounting readiness of small and medium enterprises (SMEs) in Plateau State, with specific focus on barriers to adoption and digital solutions. A cross-sectional survey research design was adopted. The population comprised 15,250 SMEs in Plateau State, from which a sample size of 390 respondents was determined using the Yamane formula. Data were collected through structured questionnaires administered to SME owners, managers, accountants, and operational staff. Out of the 390 questionnaires distributed, 376 were validly retrieved, representing a 96.4% response rate. Data were analyzed using descriptive statistics and multiple regression analysis with SPSS version 26. The findings revealed that barriers significantly hinder the adoption of environmental accounting among SMEs in Plateau State and digital accounting solutions significantly improve environmental accounting readiness among SMEs in Plateau State. It recommended regular training in environmental accounting and digital tools, and the adoption of scalable cloud-based accounting platforms integrated with environmental reporting features.

Keywords: Environmental accounting readiness, SMEs, digital accounting solutions

1.0 Introduction

Small and Medium Enterprises (SMEs) are central to economic growth, employment creation, poverty reduction, and innovation in Nigeria. In Plateau State, SMEs contribute significantly to agriculture, hospitality, mining support services, commerce, agro-processing, manufacturing, and tourism-related activities. Despite their importance, many SMEs still rely

on traditional accounting systems that focus mainly on profit measurement, taxation, cash flow, and inventory control, with little consideration for environmental costs and sustainability-related obligations.

Traditionally, accounting systems in many SMEs within Plateau State have focused primarily on conventional financial reporting such as profit determination, taxation, inventory management, and cash flow monitoring, with little attention given to environmental costs such as waste disposal, emissions, energy use, water consumption, recycling costs, and ecological restoration obligations. This limited scope creates a significant knowledge and operational gap, particularly as regulators, investors, customers, and host communities increasingly demand responsible environmental practices. Recent Nigerian studies show that technology-based accounting systems can significantly improve sustainability commitment among SMEs by enabling better tracking of waste, energy, and resource efficiency metrics (Ajape et al., 2024; Sulaiman & Usman, 2025).

The growing global emphasis on sustainability, climate responsibility, and stakeholder accountability has made environmental accounting increasingly important for all categories of businesses, including SMEs. Environmental accounting refers to the identification, measurement, recording, and reporting of environmental costs, liabilities, benefits, and performance indicators associated with business activities. These may include waste management costs, pollution control expenses, energy consumption, carbon emissions, recycling costs, and environmental restoration obligations (Ajape et al., 2024).

In Plateau State, many SME activities particularly in agriculture, quarrying, mining support, hospitality, and small-scale manufacturing have direct environmental implications such as land degradation, dust pollution, water contamination, waste generation, and energy inefficiency. However, these environmental impacts are rarely captured in conventional accounting records. The failure to account for such costs can lead to distorted profitability measurement, poor compliance planning, and weak sustainability decision-making.

The concept of environmental accounting readiness describes the degree to which SMEs possess the awareness, managerial willingness, technical capacity, digital infrastructure, skilled personnel, and organizational systems needed to adopt environmental accounting successfully. Although digital accounting adoption is gradually improving in Nigeria, many SMEs in Plateau State still face readiness challenges arising from poor awareness, inadequate training, infrastructural constraints, and resistance to change (Mohammed et al., 2024).

One of the key barriers to adoption is the limited knowledge of SME owners and managers regarding environmental cost classification and sustainability reporting. Many operators still perceive environmental accounting as a practice relevant only to large corporations. Another critical barrier is financial and infrastructural limitation. SMEs frequently operate under severe budget constraints, making it difficult to invest in specialized environmental accounting software, sustainability audit systems, cloud-based reporting tools, or staff training. While cost and infrastructure have traditionally been viewed as primary obstacles, newer Nigerian evidence shows that deeper barriers such as organizational resistance, vendor trust deficits, regulatory ambiguity, and privacy concerns may be even more significant. In Plateau State, where many SMEs face unstable power supply, internet connectivity issues, and limited access to digital finance solutions, these barriers may further weaken environmental accounting readiness (Usman et al., 2025).

Digital solutions now provide new opportunities to improve readiness. Cloud accounting systems, mobile bookkeeping applications, enterprise resource planning tools, IoT-enabled resource monitoring devices, and AI-powered reporting systems can help SMEs automate environmental data capture and integrate sustainability metrics into routine financial reporting. Such tools can reduce cost, improve accuracy, and simplify compliance processes (Telukdarie et al., 2024).

Despite the increasing relevance of sustainability and digital transformation, empirical studies focusing specifically on environmental accounting readiness among SMEs in Plateau State remain scarce. Most prior studies emphasize general digital accounting adoption, firm performance, or broad sustainability practices, leaving a contextual gap regarding the barriers, readiness dimensions, and digital enablers specific to environmental accounting in Plateau's SME ecosystem. This study therefore becomes necessary to assess Environmental Accounting Readiness of SMEs: Barriers to Adoption and Digital Solutions in Plateau State

1.2 Statement of the Problem

Environmental sustainability has become a critical issue for businesses due to increased regulatory pressure, stakeholder expectations, and the rising cost of environmental degradation. However, many SMEs in Plateau State continue to operate without systems that identify and report environmental costs associated with their operations.

This lack of environmental accounting readiness creates several problems. First, SMEs may underestimate the true cost of operations because environmental costs such as waste disposal, energy inefficiency, pollution control, and remediation are not captured. Second, poor environmental reporting reduces the ability of SMEs to comply with emerging

sustainability regulations and stakeholder expectations. Third, the absence of digital accounting tools capable of integrating environmental metrics further weakens decision-making and long-term competitiveness.

Although digital accounting technologies are increasingly available, many SMEs in Plateau State still face barriers such as poor awareness, lack of technical skills, inadequate infrastructure, financial constraints, and resistance to change. Existing studies have focused more on general accounting digitization and SME performance, with little attention given to environmental accounting readiness in Plateau State. This creates a contextual and empirical gap that this study intends to fill. The main objective of this study is to examine the Environmental Accounting Readiness of SMEs: Barriers to Adoption and Digital Solutions in Plateau State. The specific objectives are to:

1. identify the major barriers affecting the adoption of environmental accounting by SMEs in Plateau State;
2. evaluate the role of digital accounting solutions in improving environmental accounting adoption among SMEs; and

The study will provide answers to the following questions:

1. What are the major barriers that affect the adoption of environmental accounting among SMEs in Plateau State?
2. What are the digital solutions that can improve environmental accounting adoption among SMEs in Plateau State?

The following null hypotheses will guide the study:

H0₁: There are barriers that does not significantly hinder the adoption of environmental accounting among SMEs in Plateau State

H0₂: Digital accounting solutions do not significantly improve environmental accounting readiness among SMEs in Plateau State

2.1 Conceptual Review

2.1.1 Environmental Accounting Readiness

Environmental accounting refers to the systematic identification, measurement, recording, analysis, and disclosure of environmental costs, liabilities, assets, and sustainability outcomes arising from business activities. It extends conventional accounting systems by incorporating ecological cost dimensions such as waste disposal, carbon emissions, water consumption, pollution control, recycling, land restoration, and environmental compliance expenditure. For SMEs, environmental accounting improves cost

visibility, resource efficiency, stakeholder legitimacy, and sustainability reporting quality. (Sundarasan, Rajagopalan, & Alsmady, 2024; Schaltegger & Burritt, 2000)

Environmental accounting readiness refers to the preparedness of organizations, particularly SMEs, to adopt, implement, and sustain environmental accounting practices. Unlike conventional accounting readiness, which focuses on financial systems and reporting, environmental accounting readiness emphasizes the capacity of firms to integrate ecological costs, sustainability metrics, and environmental performance indicators into routine accounting processes. Readiness reflects both organizational capability and managerial willingness to pursue environmentally responsible accounting practices (Ajape et al., 2024; Usman et al., 2025).

Conceptually, environmental accounting readiness is multidimensional. First, awareness readiness refers to the level of understanding among SME owners and employees regarding the importance of environmental costs and sustainability reporting. Many SMEs in developing economies, including Nigeria, operate under the assumption that environmental accounting is only relevant for large corporations, leading to low adoption rates (Mohammed et al., 2024).

Environmental accounting readiness is closely linked to digital readiness, as digital tools not only simplify environmental data capture but also enhance reporting accuracy, traceability, and stakeholder transparency. Recent studies in Nigerian SMEs demonstrate that environmental accounting readiness significantly improves with the adoption of digital solutions, including cloud accounting platforms and mobile environmental monitoring tools (Ajape et al., 2024; Usman et al., 2025).

2.1.2 Barriers to Adoption of Environmental Accounting

Barriers to adoption of environmental accounting (EA) represent the challenges, constraints, and inhibitors that prevent firms - particularly SMEs from integrating environmental costs, liabilities, and performance indicators into their accounting systems. Understanding these barriers is critical, as they directly affect organizational readiness, sustainability reporting, and compliance with emerging environmental regulations (Ajape et al., 2024; Usman et al., 2025).

Empirical and conceptual studies suggest that barriers to EA adoption can be categorized into five primary clusters: knowledge, technological, organizational, financial, and institutional. SMEs often face limited awareness and understanding of environmental accounting concepts, tools, and reporting standards. Many SME owners and managers

perceive EA as a practice relevant only to large corporations, which reduce motivation to invest in training or adopt environmentally integrated systems (Mohammed et al., 2024).

Insufficient ICT infrastructure, unreliable internet connectivity, unstable power supply, outdated hardware, and low adoption of digital tools hinder EA implementation in SMEs. Technological barriers also include lack of access to specialized EA software, limited familiarity with cloud-based or AI-enabled accounting solutions, and concerns about cybersecurity and data privacy (Telukdarie et al., 2024; Usman et al., 2025). In the context of Plateau State, where infrastructure constraints remain significant, these barriers are particularly pronounced.

Internal organizational factors such as weak top management commitment, limited employee competence, low change readiness, and absence of formal sustainability culture impede EA adoption. SMEs with hierarchical or informal structures may lack defined roles for environmental reporting, while inadequate internal communication and resistance to change exacerbate these organizational barriers (Ajape et al., 2024; Hussain et al., 2023).

Cost considerations are a key inhibitor, especially for SMEs operating with limited budgets. Acquisition of EA software, deployment of IoT monitoring devices, staff training, maintenance of digital systems, and subscription fees for cloud services create financial pressure. These barriers are compounded by the perception that EA investments yield delayed or intangible returns (Mohammed et al., 2024; Usman et al., 2025).

Weak enforcement of environmental regulations, lack of incentives for sustainability practices, and limited professional advisory support constrain SMEs from adopting EA. Ambiguity in regulatory guidelines, inconsistent reporting standards, and minimal monitoring of compliance reduce motivation to integrate environmental considerations into accounting practices (Telukdarie et al., 2024).

2.1.3 Digital Accounting Solutions for Environmental Accounting

Digital solutions in environmental accounting (EA) refer to technology-based tools and systems that facilitate the collection, processing, analysis, and reporting of environmental costs, liabilities, and sustainability performance indicators. These solutions bridge the gap between conventional accounting practices and sustainability-oriented decision-making by enabling SMEs to integrate ecological metrics into routine financial reporting efficiently (Ajape et al., 2024; Telukdarie et al., 2024).

Digital solutions for EA encompass a variety of software, hardware, and network-based tools. Cloud accounting systems allow SMEs to record financial and environmental transactions in real-time, offering accessibility, scalability, and reduced operational costs

(Usman et al., 2025). Enterprise Resource Planning (ERP) platforms integrate environmental metrics with other business functions, such as production, supply chain management, and procurement, enabling firms to track resource consumption, waste generation, and emissions holistically (Mohammed et al., 2024).

Mobile applications and IoT-enabled devices enhance data collection by automatically monitoring energy usage, water consumption, emissions, and waste streams, reducing human error and labor-intensive recordkeeping (Telukdarie et al., 2024). Additionally, AI-powered analytics and dashboard reporting tools allow SMEs to visualize trends, forecast environmental costs, and make data-driven sustainability decisions. Some blockchain-enabled solutions further improve transparency and traceability in environmental reporting, providing immutable audit trails for regulatory compliance.

The adoption of digital solutions is influenced by several factors, including digital literacy, technological infrastructure, organizational readiness, and perceived benefits. SMEs with higher levels of digital literacy can more effectively operate and leverage these tools for environmental reporting, while robust technological infrastructure ensures reliable deployment and maintenance of digital systems (Mohammed et al., 2024; Usman et al., 2025). Organizational support, including management commitment and internal sustainability culture, is also critical to ensure the effective integration of these solutions (Ajape et al., 2024).

In the context of Plateau State, SMEs face both opportunities and constraints regarding digital EA solutions. While cloud accounting and mobile apps offer affordable and scalable options for small enterprises, infrastructural limitations such as unreliable electricity, intermittent internet access, and limited technical support remain barriers to full utilization (Usman et al., 2025). Addressing these challenges requires a combination of capacity building, affordable technology solutions, stakeholder engagement, and policy support, ensuring SMEs can leverage digital innovations to achieve environmental accounting readiness.

Digital solutions provide the technological backbone for environmental accounting adoption in SMEs. They enhance accuracy, reduce operational inefficiencies, enable compliance with environmental regulations, and support sustainability-oriented decision-making. Effective adoption, however, depends on interplay of digital literacy, infrastructure, organizational support, and external pressures, highlighting the multidimensional nature of digital readiness (Ajape et al., 2024; Telukdarie et al., 2024; Usman et al., 2025).

2.2 THEORETICAL REVIEW

2.2.1 Technology–Organization–Environment (TOE) framework

The TOE framework, developed by Tornatzky and Fleischer (1990), posits that technology adoption is influenced by three interacting contexts: Technological Context which is the availability, compatibility, complexity, and relative advantage of the technology. In environmental accounting, this includes access to digital accounting software, cloud-based platforms, AI-enabled analytics, and IoT monitoring devices (Telukdarie et al., 2024). SMEs with adequate technological infrastructure are more likely to adopt EA systems effectively; Organizational Context which is the characteristics and resources of the firm, including size, leadership support, human capital, and financial capacity. SMEs with strong management commitment, trained staff, and financial resources can overcome internal resistance and integrate environmental metrics into accounting practices (Mohammed et al., 2024) and environmental Context which is the external pressures from regulations, market expectations, competitors, and stakeholder demands. SMEs in Plateau State face increasing environmental compliance requirements and customer expectations, which act as drivers for EA adoption (Ajape et al., 2024).

The TOE framework is the anchor theory because it is widely applied in emerging economies to explain SME technology adoption, providing a robust lens to assess the interplay between internal capabilities and external pressures in driving environmental accounting readiness.

2.3 Empirical review

Usman, Halidu, & Aliyu (2025) investigated the barriers to cloud accounting adoption among Nigerian SMEs beyond the commonly cited issues of cost and infrastructure. Using a sequential mixed-methods design, the researchers collected quantitative data from 300 SME respondents and qualitative insights from 20 interviews. Descriptive statistics, multiple regression, and thematic analysis were employed to analyze the data. Findings revealed that organizational barriers had the strongest negative effect on cloud accounting adoption, followed by security and privacy concerns. Psychological barriers, socio-cultural resistance, and regulatory/legal uncertainties also significantly hindered adoption. The model explained 45% of the variance ($R^2 = 0.45$) in adoption decisions. Qualitative evidence further showed that technophobia, resistance to change, low awareness, and vendor trust deficits reinforced these barriers. The study concludes that improving cloud accounting uptake among Nigerian

SMEs requires interventions that strengthen organizational readiness, trust in vendors, user awareness, and policy clarity.

Sulaiman & Usman (2025) examined the adoption of Accounting Information Systems (AIS) among Small and Medium-sized Enterprises (SMEs) in Nigeria and its effect on financial management efficiency and business performance. Using a survey research design, primary data were collected from SME owners, accountants, and managers across selected sectors in Nigeria through structured questionnaires. A sample of respondents was drawn using stratified and purposive sampling techniques, while the data were analyzed using descriptive statistics and multiple regression analysis. The findings revealed that AIS adoption has a significant positive effect on the accuracy of financial reporting, speed of decision-making, internal control efficiency, and overall SME profitability. The study concludes that AIS adoption is a critical driver of operational efficiency and sustainable growth among Nigerian SMEs. It recommends increased government support through digital capacity-building programmes, subsidized accounting software solutions, and improved infrastructural facilities to accelerate broader adoption among SMEs.

Sundarasan, Rajagopalan, & Alsmady (2024) empirically synthesizes the evolution of environmental accounting research through a meta-synthesis of 115 review-based articles published between 1995 and 2024. Using bibliometric techniques with the Bibliometrix R-package (Biblioshiny) and VOSviewer, the study maps publication trends, influential sources, and dominant thematic clusters within the field. The findings reveal a substantial rise in environmental accounting scholarship after 2022, reflecting intensified global concern for sustainability and corporate accountability. Four principal research clusters emerge: environmental audits and management, green accounting and sustainable financial reporting, corporate social responsibility and stakeholder accountability, and environmental protection accounting. The analysis demonstrates that environmental accounting has progressively shifted from compliance-oriented reporting toward strategic sustainability integration in corporate decision-making. The study provides empirical evidence that standardized environmental reporting frameworks enhance transparency, support risk management, and align business operations with sustainable development goals. These findings offer practical implications for policymakers, regulators, and business leaders seeking to strengthen unified sustainability disclosure practices across industries and regions.

Ajape, Okpala, and Salawu (2024) empirically examined how technology-based accounting systems influence the commitment of small and medium-sized enterprises (SMEs) to sustainability practices in Nigeria. Using a survey research design, the study collected

primary data through structured questionnaires administered to 387 SME owners and managers in Lagos State. The data were analyzed using descriptive statistics and regression techniques with the aid of SPSS and EViews. Findings revealed that perceived usefulness and technological literacy significantly drive the adoption of technology-based accounting systems, while high initial cost and system complexity act as major barriers. The results further showed that the adoption of these systems significantly improves SMEs' commitment to sustainability practices, particularly in areas such as waste reduction and energy efficiency. The study concluded that technology-based accounting systems play a critical role in strengthening sustainable business practices among Nigerian SMEs, although the sustainability gains from energy efficiency may vary depending on operational context. The authors recommended improved technological support, capacity building, and policy interventions to enhance SMEs' adoption of digital accounting solutions for sustainability.

Mohammed, Inuwa, & Enemali (2024) examined the influence of digital accounting systems on the performance of small and medium scale enterprises (SMEs) in Plateau State, Nigeria. Using a survey research design, the researchers randomly selected 500 SMEs across the state and collected data through structured questionnaires. The data were analyzed using simple linear regression to determine the relationship between digital accounting system adoption and enterprise performance. Findings revealed that digital accounting systems had a significant positive effect on SME performance, particularly through improved financial record-keeping, reduced human error, faster administrative processes, and enhanced decision-making efficiency. The study concluded that wider adoption of digital accounting systems can help address poor SME performance and contribute to employment generation in Plateau State. It therefore recommended that government agencies such as SMEDAN should organize regular seminars and workshops to promote the use of digital accounting systems among SME owner-managers.

Telukdarie et al. (2024) investigates how small and medium-sized enterprises (SMEs) can mitigate digital transformation risks through a two-tier framework that combines global digital systems intelligence with local business needs analysis. Using a large corpus of 8,794 scholarly and industry documents, filtered to 4,347 relevant sources, the authors applied Natural Language Processing (NLP) and Word2Vec techniques to identify globally dominant SME digitalization activities and system requirements. The findings reveal that SMEs in developing-country contexts face persistent barriers such as limited digital skills, financing constraints, infrastructure gaps, and poor alignment between available technologies and operational needs. The AI-driven global analysis identified document management, planning,

financial management, and performance monitoring as the most critical high-intensity business functions requiring digital integration. In the country-specific tier, SMEs emphasized the need for digital invoicing, low-code website creation, digitally guided business-case development, online marketplace access, automated distributor networking, and digital cataloging systems.

3.1 Methodology

A cross-sectional survey design is employed, suitable for collecting data from SME workers in Jos North at a single point in time. The population size for this study is 15, 250 Small and Medium Scale Enterprises (SMEs) in Plateau State. The population includes owners, managers, accountants, and operational staff responsible for financial and sustainability reporting. The population size was obtained from a brochure published in December 2025 by Plateau State Ministry of Commerce, Department of Small Business and Enterprise and Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2025). However, they are unevenly distributed across the area of study. From the total population stated above; 390 respondents were selected as the sample of the population using stratified random sampling which gives each item in the population an equal probability of being selected with the aid of Taro Yamani formula. The sample size consists of three hundred and ninety (390) of small and medium scale enterprises spread unevenly across the area of study. Data collected were analyzed using the Statistical Package for the Social Sciences (SPSS) 26. Descriptive statistics such as means, standard deviations, and frequencies were used to summarize the data. Inferential statistics, including Pearson correlation and multiple regression analysis, were employed to examine the relationship between social media use and mental health outcomes. Statistical significance was set at $p < .05$.

Model Specification

Based on the objectives and the hypotheses, the following models are adopted:

The broad model can be written as:

$$EAR = f(BAR, DAS)$$

Where:

EAR = Environmental Accounting Readiness

BAR = Barriers to environmental accounting adoption

DAS = Digital accounting solutions

Inline model form:

$$EAR = \beta_0 + \beta_1 BAR + \beta_2 DAS + \varepsilon$$

The explicit regression model becomes:

$$EAR_i = \beta_0 + \beta_1 BAR_i + \beta_2 DAS_i + \varepsilon_i$$

Where:

β_0 = intercept

β_1 – β_2 = slope coefficients

ε = error term

i = SME respondent

This model allows you to test all two hypotheses simultaneously.

4.0 Data analysis and Discussions

4.1 Descriptive statistic

Table 1: Multiple Regression Analysis

Variable	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	1.322	0.231	-	5.716	0.000
Barriers to environmental accounting adoption (BAR)	-0.324	0.032	-0.360	-10.018	0.000
Digital Accounting Solutions (DAS)	0.276	0.031	0.321	8.945	0.000

Table 1 presents the results of a multiple regression analysis examining how two predictors: Barriers to environmental accounting adoption (BAR) and Digital accounting solutions (DAS) - influence the dependent variable. The constant term is 1.322 ($t = 5.716$, $p < 0.001$), indicating the baseline level of the outcome when all predictors are held at zero. Among the independent variables, Barriers to Adoption (BAR) has a negative and statistically significant effect ($B = -0.324$, $\beta = -0.360$, $t = -10.018$, $p < 0.001$), suggesting that increases in adoption barriers lead to a corresponding decline in the outcome variable. Specifically, a one-unit rise in barriers is associated with a 0.324-unit decrease in the dependent variable, holding other factors constant. This highlights barriers as a critical constraint that undermines progress or performance in the model.

In contrast, Digital Solutions demonstrate positive and highly significant relationships with the dependent variable ($\beta = 0.321$, $B = 0.276$, $t = 8.945$, $p < 0.001$) indicating that practical digital solution deployment meaningfully contribute to improved performance.

Overall, the findings suggest that while adoption barriers suppress the outcome, strengthening digital solutions can significantly drive positive results.

Table 2: Multicollinearity Statistics

Variable	Collinearity Statistics	
	Tolerance	VIF
BAR	0.998	1.002
DAS	0.996	1.004

a. Dependent Variable: Environmental accounting readiness

The multicollinearity test results revealed that all predictor variables had tolerance values ranging from 0.996 to 0.998, which are above the threshold of 0.10, while the VIF values ranged from 1.002 to 1.004, far below the maximum acceptable limit of 5. This indicates the absence of multicollinearity among the independent variables, suggesting that the variables are sufficiently independent and suitable for regression analysis.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	F-value
1	.723 ^a	.523	.518	101.575

a. Predictors: (Constant), Barriers to Adoption (BA) Digital Solutions (DS)

The model summary in Table 3 indicates a strong relationship between the independent variables and the dependent variable ($R = 0.723$). The coefficient of determination ($R^2 = 0.523$) shows that 52.3% of the variance in the dependent variable is explained by barriers to adoption and digital solutions. The adjusted R^2 value of 0.518 confirms the robustness of the model after adjusting for the number of predictors. Furthermore, the F-value of 101.575 indicates that the overall regression model is statistically significant.

4.2 Hypotheses testing and decisions

H0₁: Barriers to adoption do not significantly hinder environmental accounting readiness among SMEs in Plateau State. From the regression analysis run, given the coefficients in table 1 above, it shows that barriers to adoption significantly hinder environmental accounting readiness among SMEs in Plateau State ($B = -0.324$, $\beta = -0.360$, $p < 0.001$). Therefore, the null hypothesis is rejected.

H0₂: Digital accounting solutions significantly do not improve environmental accounting readiness. From the regression analysis run, given the coefficients in table 1

above, it shows that digital accounting solutions significantly improve environmental accounting readiness ($B = 0.276$, $\beta = 0.321$, $p < 0.001$). The null hypothesis is rejected.

4.3 Discussion of Findings

From the findings of hypothesis one, it was discovered that the barriers to adoption significantly hinder environmental accounting readiness. This suggests that financial constraints, weak infrastructure, and regulatory uncertainty impede digital and sustainability-related transformations. These constraints limit SMEs' ability to implement environmental accounting systems that rely on digital infrastructure and data processing. This is consistent with the study of Usman et al., (2025) who found that organizational barriers and security concerns significantly reduce the adoption of cloud accounting systems, which are critical for environmental accounting practices. It is also supported by the study of Shahadat et al., (2023). However the study of Khan, et al. (2024) suggests that barriers to adoption do not always hinder adoption significantly when enabling conditions exist.

From the findings of hypothesis three, digital accounting solutions significantly improve environmental accounting readiness. Studies show that digital accounting systems enhance accuracy, efficiency, and transparency in financial reporting, which essential components of environmental are accounting. By automating data collection and reporting, digital solutions facilitate environmental performance tracking and sustainability disclosures. This finding aligns with the study of Nugraheni et al., (2025) which indicates that technology adoption improves operational efficiency and decision-making in SMEs, thereby supporting broader sustainability and accounting objectives. This finding doesn't align with the study of Ogundana, O. M., et al. (2017).

5.0 Conclusion and Recommendation

5.1 Conclusion

Based on the empirical findings, the study concludes that environmental accounting readiness among SMEs in Plateau State is strongly dependent on the removal of structural barriers and the adoption of digital accounting innovations. The negative effect of adoption barriers indicates that many SMEs are still constrained by inadequate knowledge, poor infrastructure, and financial limitations. However, the significant positive influence of digital literacy, technological infrastructure, digital solutions, and innovation strategies demonstrates that SMEs can substantially improve their environmental accounting readiness through deliberate investment in digital capacity. The study therefore concludes that digital

transformation is a strategic enabler of environmental accountability among SMEs, particularly in emerging business environments such as Plateau State.

5.2 Recommendation

In line with the findings and conclusion, the following recommendations are proposed:

1. SME owners and staff should undergo regular training on environmental accounting concepts and digital accounting tools.
2. SMEs should adopt scalable cloud and mobile accounting platforms that integrate environmental cost tracking.
3. Professional accounting bodies, regulators, and environmental agencies should collaborate to develop simplified SME-focused environmental reporting frameworks.

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