

Sustainable Procurement and Performance of Oil and Gas Firms in Nigeria

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Abstract

This study evaluates the relationship that exists between sustainable procurement and performance of oil and gas firms in Nigeria. The specific objectives are to examine the connection between supplier's diversity, tender evaluation process, legal and regulatory framework, supplier appraisal practices, management commitment, and corporate performance which was measured using corporate reputation. This study employed primary data using a structured questionnaire, to gather quantitative information. The findings revealed that Supplier's diversity and tender evaluation process exhibit a significant negative relationship with corporate performance. Supplier appraisal practices and management commitment demonstrated a significant positive relationship with corporate performance. Lastly, there was an insignificant relationship between the variable of legal and regulatory framework and corporate performance. The study recommends among others, that digitalization of sustainable procurement process, establishment of clear criteria be critically considered, necessitated by contemporary reforms to ensure alignment with the unique needs of the oil and gas sector.

Key Words: Procurement, Sustainability, Performance, Reputation

1.0 Introduction

Sustainable procurement of commodities, works, and services by the government and other state organs is a crucial socio-economic function (Siyal & Xin, 2020). As handled, sustainable procurement can greatly impact an economy's prosperity (Zaidi et al, 2019). Ethical procurement practices, supplier diversity, tender evaluation process, management commitment, procurement records management, and supplier appraisal will reduce fraud, cost reduction, waste mitigation, transparency and accountability, and improve product and service quality when properly implemented.

According to Williams-Elegbe (2021) one main issue with tender evaluation is that the public procurement law does not specify how to choose the best offer, whether by price or other factors. Results from the studies of Olawumi (2016); Shleifer, Djankov, Glaeser and Bosio (2022), suggest that heavier procurement regulation is associated with better outcomes in countries with lower-quality public sectors and worse outcomes in countries with higher-quality ones. Many countries don't follow the law, but others go above and above, such as with transparency (Bosio, et al, 2022). State agencies in Nigeria violate public procurement regulations, requiring immediate intervention (Adeniran &

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Obayelu, 2017; Amber & Badenhorst-Weiss, 2012; Mohammed & Aderibigbe, 2021; World Bank, 2017). Nigeria's economy relies heavily on the oil and gas sector (Eboh, 2017; Iyoha & Oriakhi, 2002, Nwafor, 2020; World Bank, 2023; Central Bank of Nigeria, 2023). Nigeria, Africa's largest oil producer, relies on oil for economic growth, employment, and government money. Environmental sustainability, social responsibility, and governance demands are rising on the sector. Sustainable procurement, which incorporates environmental and social factors, is essential for managing these challenges.

Sustainable procurement strategies impact corporate performance in Nigeria's oil and gas sector by examining the interaction between sustainability and economic performance. The sector contributes significantly to the nation's GDP and foreign exchange (Akinlo & Adejumo, 2017), but also faces environmental degradation, socio-economic concerns, and governance issues (Oyeleke et al., 2020). Oil extraction leads to spills, gas flaring, and deforestation, affecting ecosystems and contributing to climate change (Akinbami & Akinbode, 2020; Nwapi, 2017). Social issues include inadequate land compensation and livelihood disruption (Ezeani & Chikezie, 2018). Sustainable procurement addresses these challenges by selecting suppliers and products that meet environmental standards, promote ethical labour, and enhance economic efficiency (Carter & Rogers, 2008; Seuring & Müller, 2008).

1.1 Objectives of the Study

- 1. Determine the relationship between supplier's diversity and performance of oil and gas firms in Nigeria.
- 2. Ascertain the relationship between tender evaluation process and performance of oil and gas firms in Nigeria.
- 3. Investigate the relationship between legal and regulatory framework and performance of oil and gas firms in Nigeria.
- 4. Investigate the relationship between suppliers' appraisal practices and performance of oil and gas firms in Nigeria.
- 5. Investigate the relationship between management commitment and performance of oil and gas firms in Nigeria.

1.2 Research Hypotheses

- H0₁ There is no significant connection between Supplier diversity and performance of oil and gas firms in Nigeria.
- H0₂ There is no significant relationship between tender evaluation process and performance of oil and gas firms in Nigeria is not significant.
- H₀₃ There is no link between legal and regulatory framework and performance of oil and gas firms in Nigeria.
- H₀₄ There is no significant relationship between suppliers' appraisal practices and performance of oil and gas firms in Nigeria.
- H0₅ The relationship between management commitment and performance of oil and gas firms in Nigeria is not significant

The implication of this study extends across multiple dimensions, reflecting its potential contributions to the academic field, industry practice, and policy formulation. As the global emphasis on sustainability intensifies, understanding how sustainable procurement practices impact corporate performance in Nigeria's oil and gas sector becomes increasingly crucial. This contribution is essential for advancing theoretical models of sustainable procurement and corporate performance in emerging economies, particularly in sectors with significant environmental and social impacts. For practitioners within the Nigerian oil and gas sector, this research holds substantial practical value. The oil and gas industry is characterized by complex supply chains, significant environmental footprints, and extensive socio-economic impacts. By investigating how sustainable procurement practices influence corporate performance, the study provides actionable insights that can help companies align their procurement strategies with sustainability goals. The findings will offer guidance on implementing sustainable procurement practices that not only mitigate environmental and social risks but also enhance operational efficiency and corporate reputation. This practical relevance is crucial for industry stakeholders aiming to balance profitability with sustainability in a challenging operating environment.

Understanding how these practices influence stakeholder relationships and corporate reputation in a challenging operating environment is crucial for developing effective sustainability strategies. To address these gaps, this research aims at investigating how sustainable procurement practices affect corporate performance in Nigeria's oil and gas sector. It explores the integration of environmental, social, and economic criteria into procurement processes, and assess the impact on various dimensions

of corporate performance, including financial outcomes, operational efficiency, and stakeholder relations. This investigation contributes to a deeper understanding of the roles of sustainable procurement in enhancing corporate performance and offer practical insights for policy makers, industry practitioners, and researchers. This study addresses a notable gap in the existing literature on sustainable procurement within the context of Nigeria's oil and gas sector. While extensive research has been conducted on sustainable procurement practices in various industries and geographic regions, there is limited scholarly work focused on the unique challenges and opportunities in the Nigerian oil and gas industry. By exploring this niche area, the research contributes to the academic discourse on sustainability in resource-extraction industries, offering new insights and frameworks applicable to both academia and practice.

2.0 Literature Review

2.1 Theoretical Review

2.1.1 Stakeholder Theory

A stakeholder is "any group or individual who can affect or is affected by the achievement of an organization's objectives" (Freeman, 2004). It is well known that companies produce externalities that affect different stakeholders. These externalities often cause stakeholders to increase pressures on companies to reduce negative impacts and increase positive ones. The theory suggests that a firm should pursue strategies that consider the parties affected by decisions while trying to minimize damage or maximize benefits to the representative groups (Freeman, 2004). Staff of the manufacturing firms are one of their key stakeholders. This calls for companies to think beyond financial performance but have obligations towards their staffs or employees in other words, (Jones et al., 2018). In this interplay businesses' obligations go beyond the traditional fiduciary duties to shareholder and extend to the employees of the company. (Jones et al., 2018). Since sustainable procurement is tantamount to responsible procurement, the theory then presents a bases of ascertaining the ability of the firms in Oil and Gas sector to maintain its corporate reputation and mitigate uncertainties, while also maintaining profitability in their operations.

2.2 Conceptual Review

2.2.1 Corporate Performance

Corporate performance traces its origin in a variety of fields and later became an area of interest for many scholars in the late 1970s (Shephered & Gunter, 2006). Theory of performance is one of the

most critical constructs in management research that provides a framework to explain performance and performance improvements in both traditional learning contexts as well as non-traditional settings like advising, departments, and organizations (Hanss, Liu, Schmid, & Elger, 2015). For this study, the theory of performance is considered relevant in understanding the influence of public procurement implementation on operational performance and consequently providing the theoretical background. One of the key contributing factors of performance theory is that, with the exception of fixed factors, any of the components of performance may be targeted and improved in order to improve overall performance (Marshall, Aguinis & Beltran, 2024).

Studies in performance measurement have often focused on procedures and tools that could improve the efficiency and the effectiveness of organizations (Franco-Santos et al., 2007; Kaplan & Norton, 2001). Locke and Latham (2004) found a positive, linear function in that, the most difficult goals produced the highest levels of effort and performance. They also found that performance decreased once the limits of ability were reached or when commitment to a highly difficult goal lapsed. The theory of performance require organizations to 'perform' and to communicate their achievements to key stakeholders (Micheli & Mari, 2014).

2.2.2 Sustainable Procurement

Sustainable procurement has become a critical consideration in modern business practices, aimed at reducing environmental impact, promoting social responsibility, and ensuring economic viability across the supply chain. Defined as the acquisition of goods and services in a way that achieves value for money on a life-cycle basis while minimizing harm to the environment and society, sustainable procurement addresses multiple dimensions of sustainability (Walker & Jones, 2017). It requires organizations to integrate social, environmental, and ethical criteria into procurement decisions, going beyond traditional financial metrics to consider long-term impacts (Gandhi, Maini & Bhatia, 2020).

Environmental responsibility within sustainable procurement emphasizes reducing carbon footprints, conserving natural resources, and promoting eco-friendly production methods. Research highlights the importance of environmentally conscious procurement strategies that focus on reducing energy use, waste, and greenhouse gas emissions across the supply chain (Brammer & Walker, 2011). For instance, organizations may prioritize suppliers who demonstrate sustainable practices, such as using

renewable resources or adhering to strict environmental standards, contributing to global efforts toward sustainable development (Carter & Rogers, 2008).

Social considerations in sustainable procurement focus on fair labour practices, human rights, and community impact. Procurement processes now increasingly require adherence to labour standards, fair wages, and safe working conditions for all workers in the supply chain (Walker & Phillips, 2009). By enforcing ethical guidelines for suppliers, companies help reduce exploitative labour practices, support local communities, and foster equitable growth in developing regions where they source materials or services (Preuss, 2009). This approach aligns with the principles of corporate social responsibility and demonstrates a commitment to ethical sourcing.

Economically, sustainable procurement contributes to long-term savings and risk reduction by enhancing resource efficiency and fostering innovation. Studies suggest that sustainable procurement can drive cost savings through the efficient use of resources, such as energy or raw materials, while also reducing potential liabilities related to environmental regulations and reputational risks (Brammer & Walker, 2011). Additionally, it allows companies to strengthen resilience by establishing stable, transparent supply chains that can withstand economic or environmental disruptions (Tate et al., 2010).

2.2.3 Supplier's Diversity

Supplier diversity is a strategic approach within procurement that focuses on creating a network of suppliers that reflects a range of demographics, backgrounds, and business types. This concept gained prominence as businesses began recognizing the importance of inclusive supply chains, which not only foster economic growth within underrepresented communities but also enhance the company's adaptability and resilience (Diversity Best Practices, 2020). The drive toward supplier diversity is influenced by a growing understanding that inclusive practices in procurement can boost innovation, improve service delivery, and support local economic development (Sánchez-Fernández et al., 2021). Companies that prioritize supplier diversity actively seek out and engage small businesses owned by minorities, women, veterans, and other marginalized groups to contribute to their supply chains. This practice has shown multiple benefits beyond ethical alignment; studies have illustrated that supplier diversity can improve overall performance by allowing companies to access new markets and cater to increasingly diverse consumer bases (Ram et al., 2021). Furthermore, diversified suppliers often bring

unique insights and innovations that might be overlooked in traditional supply chains, which are often limited to larger, well-established vendors (Burke & Thompson, 2019).

The implementation of supplier diversity programs requires thoughtful planning and commitment from leadership. Many organizations have adopted formal policies to ensure these programs are embedded into their procurement strategies, with executives taking responsibility for setting goals and evaluating progress (Handfield et al., 2020). Metrics and regular assessments are often used to ensure accountability and measure the effectiveness of these programs in achieving broader business objectives, such as increased market share and enhanced customer satisfaction (DiversityInc, 2021). Research also suggests that companies with robust supplier diversity programs tend to experience enhanced brand loyalty, especially from consumers who prioritize social responsibility and support for marginalized communities (Gandhi et al., 2020).

2.2.4 Tender Evaluation Process

The tender evaluation process is a critical component of procurement management, affecting not only the efficiency and effectiveness of operations but also the strategic alignment and overall success of projects (Khan & Hinojosa, 2019; Pereira, 2020). This process involves assessing and selecting suppliers or contractors through a structured and transparent method to ensure that the best value is obtained while mitigating risks and fostering fairness. Given the complexity and scale of oil and gas projects, the tender evaluation process plays a significant role in ensuring that procurement decisions support both operational goals and regulatory compliance. The tender evaluation process typically involves several key stages, including the preparation of tender documents, submission of bids, and evaluation of proposals. This process aims to identify the most suitable supplier or contractor based on predefined criteria such as technical capability, financial stability, and compliance with contractual requirements (Nangpiire, Gyebi & Nasse, 2024).

In the oil and gas sector, where projects are often large-scale and high-risk, a rigorous evaluation process is essential to ensure that selected partners can meet the technical, safety, and regulatory standards required.

A well-structured evaluation process ensures that the selected bid not only meets the budgetary constraints but also offers the best combination of quality and performance (Miller & Perry, 2021).

This is crucial for optimizing project costs and achieving financial efficiency. In the oil and gas sector, compliance with legal and regulatory requirements is a major consideration. The tender evaluation process includes assessing bidders' adherence to relevant laws, safety standards, and environmental regulations. This helps ensure that projects are carried out in accordance with regulatory frameworks and reduces the risk of legal and financial penalties (Dixon & Cheung, 2020).

2.2.5 Legal and Regulatory Framework

The legal and regulatory framework for sustainable procurement the oil and gas sector is pivotal in shaping the performance and development of the industry. In Nigeria, which is one of Africa's largest oil producers, the legal and regulatory environment significantly influences operational efficiency, investment attractiveness, and overall sector performance (Adamu, 2021; Olamide & Ogunleye, 2022). The procurement processes in Nigeria's oil and gas sector are governed by a complex legal and regulatory framework designed to ensure transparency, efficiency, and accountability. This framework encompasses various laws, regulations, and guidelines that dictate how procurement activities are conducted, aiming to balance the interests of stakeholders, enhance operational efficiency, and promote fair competition. The PIA, a significant reform, aims to modernize the regulatory environment, enhance transparency, and improve procurement processes within the industry (Adamu, 2021). It introduces provisions for the establishment of regulatory bodies such as the Nigerian Upstream Regulatory Commission (NURC) and the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA), which oversee various aspects of the procurement process.

The Public Procurement Act (PPA) 2007 is another critical piece of legislation that governs procurement activities in Nigeria, including those in the oil and gas sector. The Act establishes the Bureau of Public Procurement (BPP), which is responsible for overseeing public procurement practices and ensuring compliance with procurement laws and regulations (Nnaji, 2018). It provides guidelines for competitive bidding, contract awards, and dispute resolution, aiming to promote transparency and accountability in public procurement. The Nigerian Content Development and Monitoring Board (NCDMB) Act of 2010 focuses on promoting local content in the oil and gas sector. The Act mandates that a certain percentage of procurement activities and services must involve local suppliers and contractors, aiming to boost local industry participation and economic development (Ogunleye, 2017). This policy is intended to enhance the involvement of Nigerian businesses in the sector and ensure that procurement practices contribute to national development goals.

The legal and regulatory framework is designed to enhance transparency and efficiency in procurement processes. The PIA 2021 and the PPA 2007 set forth requirements for competitive bidding, due diligence, and public disclosure, which are intended to reduce corruption and ensure that procurement decisions are based on merit (Adamu, 2021; Nnaji, 2018). These regulations aim to create a level playing field for suppliers and contractors, thereby fostering fair competition and improving the overall efficiency of procurement activities.

2.2.6 Supplier Appraisal Practices

Grimm et al (2014), carried out a study on supplier relationship management. The study documents that many companies are experiencing reputational and regulatory risks through their complex supply chains. As such, supplier audits are key activities for identification of non-conformance with an organizational values, standards, laws and regulations. Khalili et al (2017) studied Supplier Evaluation and Selection Process for Public Procurement in the Swedish Electricity industry. The study concluded that, ensuring fair dealing is essential for minimizing the potential risk from undue influence under the circumstance of discretion. Suppliers' appraisal involves evaluating suppliers based on various criteria, including their financial stability, technical capability, and compliance with safety and environmental standards (Ojo, 2021). In the Nigerian context, procurement practices are influenced by the need to adhere to both local and international regulations, which necessitates a rigorous appraisal process to mitigate risks such as corruption and supply chain disruptions (Adesanya & Akinlabi, 2022). Effective supplier appraisal can enhance procurement outcomes by ensuring that suppliers meet the industry's rigorous standards and can adapt to the dynamic environment of the Nigerian oil and gas sector.

2.2.7 Management commitment

The effective management of procurement within this sector is crucial due to its impact on operational efficiency, regulatory compliance, and overall economic stability. Management commitment plays a significant role in shaping procurement practices and outcomes, influencing both strategic and operational success. This background statement examines the critical nature of management commitment in procurement within Nigeria's oil and gas sector, exploring its implications for performance and efficiency. Nigeria's oil and gas sector is central to the nation's economy, contributing significantly to government revenue, foreign exchange earnings, and employment (Okafor et al., 2021). The sector's prominence necessitates robust procurement processes to support exploration, production, and distribution activities. Management must align procurement strategies with

organizational goals and the broader economic and regulatory environment. This strategic alignment ensures that procurement activities support the company's objectives and adapt to market conditions. For instance, aligning procurement strategies with sustainability goals can enhance the sector's environmental performance. Effective procurement management requires adequate resources, including skilled personnel, technology, and financial investment. Management commitment is a critical determinant of procurement success in Nigeria's oil and gas sector. Effective procurement management, supported by strong managerial oversight, enhances operational efficiency, ensures regulatory compliance, and mitigates risks (Gordon & Richards, 2022; Parker & Hartley, 2008; Arrowsmith, 2010).

2.3 Empirical Review

Mebrate and Shumet (2024) carried out a conceptualized study and developed dimensions of procurement practice and tested the relationships between procurement practices and organizational performance. The relationships proposed in the framework were tested using structural equation modelling. The findings indicated that procurement planning and staff competency have a positive impact on organizational performance. Public institutions, particularly Universities are encouraged to apply and embark on procurement planning and staff competency practices to maximize performance. The paper concludes with some managerial implications, limitations and opportunities of the study, and suggestions for future work.

Jama and Mohamud (2024) reviewed the existing literature on the impact of procurement practices on organizational performance and identify gaps in the current knowledge base. A systematic evaluation was conducted on published studies between 2017 and 2022. Two authors independently assessed study eligibility, extracted relevant data, and evaluated the risk of bias and study quality. Initially, 1639 references were retrieved, but after applying inclusion criteria and eligibility assessment, only 15 articles were deemed suitable for analysis. The selected articles were thoroughly examined to analyse and synthesize their objectives, methodologies, outcomes, and recommendations. The findings highlight that effective procurement practices enable organizations to secure high-quality goods and services, foster strategic supplier partnerships, and gain a competitive advantage in the marketplace. Conversely, inadequate procurement practices have detrimental effects on overall organizational performance. Furthermore, the study reveals that organizations face significant challenges in optimizing their procurement practices, directly impacting their overall performance.

Nangpiire, et al. (2024) empirically examined the predictive relationship between sustainable procurement practices and its dimensions (staff competence, sustainable IT infrastructure and top management support) and the performance of Small and Medium Enterprises (SMEs). Using the explanatory research design, structured questionnaires were administered to 317 managers and owners of selected SMEs. The Structured equation modelling (SEM) via Smart PLS 4.0 was used for analysing and testing the hypotheses. The findings show that top management support and sustainable IT infrastructure have moderately significant and positive impact on SMEs performance whilst staff competence did not have any statistically significant effect on SMEs performance.

Adesanya et al. (2022) investigated the impact of effective supplier management on the enhancement of tobacco manufacturers' sustainability performance. The research findings indicated that effective collaboration between the procurement and other functional teams is vital in implementing sustainable supplier relationship management (SRM). The study provided compelling evidence of the successful integration of sustainability practices into the SRM processes. Further study on sustainable supplier relationship management (SRM) should examine both the buyer's and the supplier's perspectives before including the entire supply chain.

Hallikas et al., (2021) administered structured questionnaire with the aim of investigating the capabilities of digital procurement, with a specific focus on exploring the interrelationships between digital procurement capabilities, data analytics capabilities, and the operational performance of the supply chain. The findings indicated that digital procurement capabilities mediate the positive relationship between external data analytics capabilities and supply chain performance. Due to the study's reliance on questionnaires alone to collect primary data on digital procurement and data analytics, additional research is required to adopt secondary data to measure these variables, reducing subjectivity's influence.

Changalima (2024) investigates the predictive role of sustainable supplier selection (SSS) in enhancing lead-time performance in public procurement, while also examining the moderating effect of relational capability. The study collected primary data from 179 accredited public organizations in Tanzania through structured questionnaires and used partial least squares structural equation modelling for data analysis. The results reveal that SSS and relational capability influence lead-time performance in public procurement. Regarding the moderating effect of relational capability, the study

establishes that relational capability strengthens the influence of SSS on lead-time performance. Therefore, based on the collected data from surveyed public organizations, relational capability positively moderates the relationship between SSS and lead-time performance in public procurement.

Adebayo et al. (2024) explore the integration of compliance, ethics, and cost-effectiveness within sustainable procurement. Compliance is governed by regulatory frameworks like ISO 20400 and government regulations, ensuring adherence to sustainability standards. Ethical procurement upholds fairness, transparency, integrity, and human rights principles, positively impacting stakeholders such as suppliers, employees, and communities. Cost-effectiveness in sustainable procurement brings significant economic benefits, including cost savings, efficiency gains, and long-term financial advantages. A holistic approach integrating these elements is crucial for developing a sustainable procurement strategy. Organizations are encouraged to prioritize sustainable procurement by developing clear policies, engaging stakeholders, providing training, managing suppliers effectively, and leveraging technology.

de Oliveira et al (2023) identify and catalogue general sustainability impact categories to be used as evaluation criteria in sustainable procurement. This research applied cognitive mapping, a tool in Problem Structuring Methods, based on a systematic literature review and interviews with 10 experts in the field. They also collaborated in the categorization and validation of the results. This study suggests a set of 58 midpoint and 14 endpoint sustainability categories, providing a contribution for different actors in society and supply chains, allowing them to evaluate supply options in sustainable procurement. The participation of experts enriched the understanding of the problem, allowing to observe a fourth sustainability dimension for procurement, comprising Supplier Governance and Compliance.

2.4 Gaps in Reviewed Empirical Literature

Review of empirical literature reveals that, while significant research has been conducted on sustainable procurement and performance, existing literature focuses on global sustainability practices and corporate performance metrics, hence, limited attention is being given to the role of local suppliers in driving sustainability within the Nigerian context. Mebrate and Shumet (2024) carried out a conceptualized study on developed dimensions of procurement practice; Nangpiire, et al. (2024) examined the predictive relationship between sustainable procurement practices and its dimensions;

Hallikas et al. (2021) and Adesanya et al. (2020) also assessed the impact of effective supplier management on the enhancement of tobacco manufacturers' sustainability performance, and the capabilities of digital procurement, and Changalima (2024) investigates the predictive role of sustainable supplier selection (SSS) in enhancing lead-time performance in public procurement. However, there is a research gap in understanding how sustainable procurement practices in this context influence corporate performance, particularly in terms of profitability, regulatory compliance, and social responsibility in the oil and gas sector. This gap presents an opportunity to explore how performance of oil and gas firms is being influenced simultaneously, by specific sustainable procurement dynamics such as Supplier's diversity, tender evaluation process, legal & regulatory framework, supplier appraisal practices and management commitment to green procurement practices.

3.0 Methodology

This study employed a descriptive survey research design, allowing for a comprehensive examination of relationships and patterns. The study population comprised 2,500 procurement managers, sustainability officers, and corporate performance analysts within Nigeria's oil and gas industry, particularly in major oil and gas production regions such as the Niger Delta and onshore fields. Taro Yamane formula was applied to arrive at the sample size of 345 from the study population. This study employed primary data using a structured questionnaire, specifically designed to gather quantitative information from respondents who were industry experts in Nigeria's oil and gas sector. Correlation matrix was employed to ascertain the extent of relationship among the variables while the hypotheses were tested using multiple linear regression.

3.1 Model Specification

The study utilized a 5-point Likert scale questionnaire for data collection, ranging from Strongly Agree (5) to Strongly Disagree (1). The following econometric model was self-formulated to test these relationships:

$$CP_i = \beta_0 + \beta_1 SD_i + \beta_2 TEP_i + \beta_3 LRF_i + \beta_4 SAP_i + \beta_5 MC_i + U_i \qquad (3.1)$$
 Where:

CPi = Corporate Performance in year t

SDi = Supplier Diversity to corporate performance in year t

TEPi = Tender Evaluation Process to corporate performance in year t

 $LRFi = Legal \mathcal{C} Regulatory Framework to corporate performance in year t$

SAPi = Supplier Appraisal Practices to corporate performance in year t

MCi = Management Commitment to corporate performance in year t

4.0 Data Presentation and Analysis

4.1 Data Presentation

Table 4.1 Descriptive Statistics

		Frequency	Percent
	Male	149	45.7
Gender	Female	177	54.3
	Total	326	100.0
	30-40 years	68	20.9
4	41-50 years	195	59.8
Age	51 years and above	63	19.3
	Total	326	100.0
	BSC	9	2.8
	MSc	153	46.9
Educational Level	PhD	159	48.8
	Others	5	1.5
	Total	326	100.0
		Frequency	Percent
	1 - 5yrs	97	29.8
Level of Work experience	6 - 10yrs	149	45.7
Level of work experience	10 — above	80	24.5
	Total	326	100.0

Among the 326 respondents, 54.3% are female, and 45.7% are male, indicating a balanced gender representation but with a slight predominance of females. This balance is essential for capturing diverse perspectives on procurement practices across gender lines, which could reflect a comprehensive understanding of how gender diversity impacts organizational procurement.

The majority of respondents (59.8%) fall between 41 and 50 years, suggesting that the bulk of participants are mid-career professionals with substantial experience. Those aged 30–40 represent 20.9% of the sample, while individuals aged 51 and above constitute 19.3%. This distribution implies that the respondents are largely seasoned professionals who likely possess valuable insights into sustainable procurement practices and corporate performance. The educational background of the participants is notably high, with 48.8% holding a PhD and 46.9% MSc, while only a small fraction (2.8%) holds a BSc. This indicates a highly educated workforce involved in procurement processes, reflecting the sector's emphasis on expertise and specialization. Such high levels of education among

participants suggest that they are likely knowledgeable about procurement practices, adding credibility to the responses provided.

Table 4.2 Supplier's Diversity

Statement		Frequency	Percent
	Strongly Disagree	56	17.2
	Disagree	85	26.1
Our company has a supplier's	Undecided	74	22.7
diversification policies.	Agree	57	17.5
	Strongly Agree	54	16.6
	Total	326	100.0
	Strongly Disagree	20	6.1
Sumplier's diversity is an integral aspect	Disagree	53	16.3
Supplier's diversity is an integral aspect	Undecided	84	25.8
of our company's overall procurement	Agree	97	29.8
strategy	Strongly Agree	72	22.1
	Total	326	100.0
	Strongly Disagree	18	5.5
	Disagree	60	18.4
We always review diversity metrics of our	Undecided	54	16.6
suppliers based on emerging regulatory demand	Agree	117	35.9
demand	Strongly Agree	<i>77</i>	23.6
	Total	326	100.0
	Strongly Disagree	24	7.4
	Disagree	55	16.9
Our company has preference for female	Undecided	53	16.3
suppliers than their male counterparts	Agree	105	32.2
	Strongly Agree	89	27.3
	Total	326	100.0
	Strongly Disagree	26	8.0
	Disagree	20	6.1
Our company's performance better when suppliers are highly diversified in terms of market reputation	Undecided	57	17.5
	Agree	136	41.7
	Strongly Agree	87	26.7
	Total	326	100.0

The responses reveal that only 34.1% agree or strongly agree that their organizations have supplier diversification policies, while 43.3% disagree or strongly disagree. This suggests that supplier diversification is not widely prioritized, potentially indicating a need for greater emphasis on inclusive procurement policies to improve corporate performance. Approximately 51.9% of respondents agree or strongly agree that supplier diversity is integral to their company's procurement strategy. This commitment to diversity within the procurement strategy reflects an awareness of the potential

competitive advantages and performance benefits that diverse suppliers may bring. However, 22.4% remain undecided, suggesting some uncertainty or variability in the actual implementation of these policies.

The majority (59.5%) of respondents agree or strongly agree that their organizations review supplier diversity metrics in response to regulatory requirements, underscoring a proactive approach to regulatory compliance. This tendency to adapt procurement practices to regulatory demands highlights an alignment with sustainability goals, though a significant 23.9% remain neutral, suggesting areas where companies could strengthen their responses to evolving diversity regulations.

Table 4.3 Tender Evaluation Process

Statement		Frequency	Percent
	Strongly Disagree	27	8.3
	Disagree	24	7.4
The procurement's tender evaluation	Undecided	58	17.8
process in the oil and gas sector is transparent and fair.	Agree	153	46.9
	Strongly Agree	64	19.6
	Total	326	100.0
	Strongly Disagree	18	5.5
Clear criteria are established for	Disagree	24	7.4
	Undecided	56	17.2
evaluating tenders in the oil and gas sector	Agree	163	50.0
sccioi	Strongly Agree	65	19.9
	Total	326	100.0
	Strongly Disagree	23	7.1
	Disagree	23	7.1
The current tender evaluation process	Undecided	58	17.8
effectively identifies the best suppliers for oil and gas projects	Agree	129	39.6
101 on and gas projects	Strongly Agree	93	28.5
	Total	326	100.0
	Strongly Disagree	37	11.3
	Disagree	34	10.4
There is adequate training for personnel	Undecided	51	15.6
involved in the tender evaluation process	Agree	121	37.1
	Strongly Agree	83	25.5
	Total	326	100.0
	Strongly Disagree	44	13.5
	Disagree	50	15.3
The involvement of stakeholders in the	Undecided	44	13.5
tender evaluation process enhances its effectiveness.	Agree	110	33.7
	Strongly Agree	78	23.9
	Total	326	100.0

Of the respondents, 66.5% agree or strongly agree that the tender evaluation process is transparent and fair, indicating a positive perception of the evaluation mechanisms in place. Only 15.7% disagree, suggesting that while transparency is broadly upheld, there may be some organizational variability or concerns about fairness in the process.

Half of the respondents (50.0%) agree that clear criteria for tender evaluation are established, while 19.9% strongly agree, reinforcing the perception that structured evaluation criteria are fundamental within the industry. However, 17.2% remain undecided, which could reflect inconsistencies in the implementation of these criteria across organizations.

A combined 68.1% of respondents agree or strongly agree that the evaluation process is effective in selecting the best suppliers, pointing to confidence in the procurement practices that determine supplier selection. The relatively high level of satisfaction with supplier selection effectiveness aligns with the sector's goal of maintaining quality in procurement operations, though 17.8% remain undecided, which may reflect perceived gaps in the process.

A total of 59.5% of participants agree or strongly agree that the existing legal framework supports sustainable procurement, which suggests that regulatory bodies in Nigeria's oil and gas sector are recognized for their role in promoting sustainability. However, with 28.5% disagreeing or strongly disagreeing, some respondents may perceive regulatory challenges that impact sustainable procurement.

Most respondents (56.7%) agree or strongly agree that regulatory policies are enforced, demonstrating a favourable view of the regulatory landscape's consistency. Nevertheless, the 29.8% who disagree or remain neutral could signify concerns about the actual consistency or extent of enforcement within the sector.

Regarding the role of the legal framework in attracting foreign investment, 57.6% of respondents express agreement or strong agreement, indicating that the legal environment is generally seen as favourable to foreign stakeholders. However, with nearly 28.5% undecided or disagreeing, some

respondents may be uncertain about the stability or transparency of regulatory mechanisms for foreign investors.

Table 4.4 Legal & Regulatory Framework

Statement		Frequency	Percent
	Strongly Disagree	49	15.0
The existing legal framework effectively	Disagree	44	13.5
supports sustainable procurement in the operations of the oil and gas sector in	Undecided	39	12.0
	Agree	133	40.8
Nigeria.	Strongly Agree	61	18.7
	Total	326	100.0
	Strongly Disagree	47	14.4
Decited and the factor of the state of	Disagree	51	15.6
Regulatory policies in the oil and gas	Undecided	43	13.2
sector are consistently enforced by the government	Agree	104	31.9
government	Strongly Agree	81	24.8
	Total	326	100.0
The legal framework facilitates foreign	Strongly Disagree	45	13.8
	Disagree	48	14.7
investment in the Nigerian oil and gas	Undecided	45	13.8
sector through sustainable procurement	Agree	108	33.1
practices	Strongly Agree	80	24.5
	Total	326	100.0
	Strongly Disagree	36	11.0
	Disagree	43	13.2
There is adequate clarity in the	Undecided	47	14.4
regulations governing sustainable procurement in the oil and gas sector	Agree	118	36.2
procurement in the on and gas sector	Strongly Agree	82	25.2
	Total	326	100.0
	Strongly Disagree	42	12.9
The legal and regulatory environment in	Disagree	38	11.7
Nigeria is conducive for sustainable procurement practices in the oil and gas industry	Undecided	34	10.4
	Agree	134	41.1
	Strongly Agree	78	23.9
	Total	326	100.0

A majority of respondents (57.6%) agree or strongly agree that the criteria used to appraise suppliers are clearly defined, indicating that transparent evaluation practices are prioritized within the industry. However, 27.3% disagree or remain neutral, suggesting potential ambiguity in how appraisal criteria are understood or applied across companies.

The data show that 59.8% of participants agree or strongly agree that suppliers undergo regular evaluations, underscoring a focus on quality and reliability in supplier management. This emphasis on supplier performance may contribute positively to corporate performance, though 18.7% are undecided, suggesting some inconsistency in evaluation frequency or rigor.

The majority (71.8%) indicate that supplier feedback is actively incorporated into the procurement appraisal process, reflecting an adaptive and responsive approach to supplier management. This inclusive feedback mechanism highlights the industry's emphasis on continuous improvement and alignment with sustainability goals, although 16.9% remain neutral, pointing to potential areas for enhancing supplier collaboration.

Table 4.5 Supplier's Appraisal Practices

Statement	Frequency		Percent
	Strongly Disagree	37	11.3
	Disagree	52	16.0
The criteria used for appraising suppliers in our organization are clearly defined and understood.	Undecided	49	15.0
	Agree	107	32.8
	Strongly Agree	81	24.8
	Total	326	100.0
	Strongly Disagree	30	9.2
	Disagree	40	12.3
Regular performance evaluations of	Undecided	61	18.7
suppliers are conducted to ensure quality and reliability	Agree	117	35.9
and tenability	Strongly Agree	78	23.9
	Total	326	100.0
	Strongly Disagree	23	7.1
	Disagree	14	4.3
Supplier feedback is actively sought and	Undecided	55	16.9
incorporated into our procurement appraisal process	Agree	146	44.8
арргаізаі ріоссээ	Strongly Agree	88	27.0
	Total	326	100.0
	Strongly Disagree	12	3.7
	Disagree	29	8.9
Our organization uses quantitative	Undecided	90	27.6
metrics to assess supplier performance effectively	Agree	129	39.6
circurciy	Strongly Agree	66	20.2
	Total	326	100.0
The supplier appraisal process is aligned	Strongly Disagree	16	4.9
with our overall business objectives and	Disagree	8	2.5
strategy	Undecided	87	26.7

Agree	140	42.9
Strongly Agree	75	23.0
Total	326	100.0

Most respondents (75.2%) agree or strongly agree that their management actively promotes sustainable procurement, suggesting a strong endorsement for sustainability from organizational leaders. This support can be crucial for fostering a culture of sustainable practices within the organization, with only 5.5% disagreeing, indicating broad managerial commitment across the sector.

A significant portion (72.4%) agree or strongly agree that there is a clear sustainable procurement policy endorsed by top management, reflecting formal policy backing within companies. However, 23.9% of participants are undecided, which may point to the need for greater clarity or communication of these policies to all organizational levels.

Table 4.6 Management Commitment

Statement		Frequency	Percent
	Strongly Disagree	14	4.3
	Disagree	4	1.2
Management in our organization actively	Undecided	63	19.3
promotes sustainable procurement practices	Agree	205	62.9
pracuces	Strongly Agree	40	12.3
	Total	326	100.0
	Strongly Disagree	10	3.1
	Disagree	2	.6
There is a clear policy on sustainable procurement that is endorsed by top management	Undecided	78	23.9
	Agree	161	49.4
	Strongly Agree	75	23.0
	Total	326	100.0
	Strongly Disagree	10	3.1
	Disagree	18	5.5
Our management invests resources in	Undecided	63	19.3
training employees about sustainable procurement practices	Agree	160	49.1
procurement practices	Strongly Agree	75	23.0
	Total	326	100.0
	Strongly Disagree	17	5.2
1	Disagree	7	2.1
Management regularly reviews and	Undecided	66	20.2
updates sustainable procurement strategies	Agree	168	51.5
	Strongly Agree	68	20.9
	Total	326	100.0
Our leadership encourages collaboration	Strongly Disagree	13	4.0
with suppliers who prioritize sustainability	Disagree	9	2.8

Undecided	89	27.3
Agree	186	57.1
Strongly Agree	29	8.9
Total	326	100.0

Most respondents (72.1%) agree or strongly agree that management invests in training employees on sustainable procurement, underscoring a commitment to knowledge-building in sustainability. This investment is critical in ensuring that employees are well-equipped to contribute to sustainable goals, though 19.3% are undecided, suggesting variability in training initiatives across the industry.

 Table 4.7
 Corporate Performance

Statement		Frequency	Percent
	Strongly Disagree	11	3.4
	Disagree	3	.9
Sustainable procurement contributes to improved operational efficiency in our organization	Undecided	99	30.4
	Agree	145	44.5
	Strongly Agree	68	20.9
	Total	326	100.0
	Strongly Disagree	2	.6
Implementing exectsinable mas exament	Disagree	87	26.7
Implementing sustainable procurement	Undecided	55	16.9
practices has positively impacted our financial performance	Agree	114	35.0
	Strongly Agree	68	20.9
	Total	326	100.0
	Disagree	48	14.7
Our commitment to sustainability	Undecided	85	26.1
enhances our competitive advantage in	Agree	118	36.2
the oil and gas sector	Strongly Agree	75	23.0
	Total	326	100.0
	Strongly Disagree	5	1.5
	Disagree	12	3.7
Sustainable procurement practices lead to	Undecided	92	28.2
better compliance with regulatory standards	Agree	182	55.8
otalida do	Strongly Agree	35	10.7
	Total	326	100.0
	Strongly Disagree	23	7.1
	Disagree	23	7.1
Our customers value our commitment to	Undecided	58	17.8
sustainability in procurement decisions	Agree	129	39.6
	Strongly Agree	93	28.5
	Total	326	100.0

A combined 65.4% of respondents agree or strongly agree that sustainable procurement enhances operational efficiency, indicating that such practices positively influence day-to-day operations. However, 30.4% remain undecided, reflecting some uncertainty or lack of clear metrics to link procurement sustainability to operational performance.

While 55.9% agree or strongly agree that sustainable procurement practices positively impact financial performance, 26.7% disagree. This split suggests that while many recognize a financial benefit, others may not yet perceive direct financial gains from sustainability efforts, indicating a potential area for further analysis or improvement in communicating financial impacts.

A total of 59.2% of respondents agree or strongly agree that a commitment to sustainable procurement enhances competitive advantage. This indicates that many companies recognize the reputational and strategic benefits of sustainability, though 26.1% remain undecided, which may imply variability in how sustainability is leveraged competitively across different organizations in the sector.

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
		1	J	j
1	.525ª	.276	.262	.957

a. Predictors: (Constant), Supplier diversity, tender evaluation process, legal & regulatory framework, supplier appraisal practices, management commitment

The model summary in Table 4.8 provides insight into the strength and explanatory power of the regression model used to predict corporate performance in Nigeria's oil and gas sector. The correlation coefficient R=0.525R = 0.525R=0.525 indicates a moderate positive relationship between the independent variables—supplier diversity, tender evaluation process, legal and regulatory framework, supplier appraisal practices, and management commitment—and corporate performance. The R2R^2R2 value of 0.276 suggests that approximately 27.6% of the variability in corporate performance can be explained by these predictors. The adjusted R2R^2R2, which accounts for the number of predictors in the model, is slightly lower at 0.262, indicating that when adjusting for sample size and predictors, the model explains 26.2% of the variance in corporate performance.

The standard error of the estimate is 0.957, indicating the average deviation of the observed corporate performance values from the model's predictions. This error measurement helps gauge the model's accuracy, with a lower standard error generally indicating a better fit. Although the R2R^2R2 value

suggests a fair explanatory capacity, the moderate correlation suggests that other factors not included in the model may also influence corporate performance in the sector.

Table 4.9 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	111.377	6	18.563	20.274	$.000^b$
1	Residual	292.074	319	.916		
	Total	403.451	325			

a. Dependent Variable: Corporate performance of oil and gas sector in Nigeria

The ANOVA table evaluates the overall significance of the regression model. In this model, the regression sum of squares is 111.377, and the residual sum of squares is 292.074, contributing to a total sum of squares of 403.451. The mean square for the regression is 18.563, while the mean square for the residuals is 0.916. The F-statistic of 20.274, with a significance level (ppp) of 0.000, indicates that the overall model is statistically significant.

This significance level (p<0.001p < 0.001p<0.001) suggests that, collectively, the predictors (supplier diversity, tender evaluation process, legal and regulatory framework, supplier appraisal practices, and management commitment) significantly impact corporate performance in the oil and gas sector. The high F-statistic further supports that the variation explained by the regression model is not due to random chance, indicating that the combination of these predictors effectively accounts for a significant portion of the variation in corporate performance.

Table 4.10 Coefficient Analysis

Model		Unstandardize	d Coefficients	Standardized Coefficients	t	Sig.
		В	Std. Error	Beta	=	
(Constant)		2.230	.377		5.907	.000
Supplier's diversit	y	106	.046	112	-2.317	.021
Tender Evaluatio	n Process	199	.053	202	-3.778	.000
Legal & regulato	ry framework	.050	.039	.062	1.275	.203
Supplier's Appra	isal Practices	.411	.065	.366	6.309	.000
Management Con	ımitment	.141	.076	.106	1.861	.004

a. Dependent Variable: Corporate performance of oil and gas sector in Nigeria

b. Predictors: (Constant), Supplier diversity, tender evaluation process, legal & regulatory framework, supplier appraisal practices, management commitment

Hypothesis 1: There is no significant relationship between Supplier diversity and performance of oil and gas sector in Nigeria.

The coefficient for supplier diversity is -0.106 with a ppp-value of 0.021, indicating a statistically significant effect at the 0.05 level. However, the coefficient is negative, suggesting that supplier diversity is negatively associated with corporate performance. Suppliers' diversity has a significant negative relationship with corporate performance in this context, indicating potential inefficiencies or challenges associated with this factor.

Hypothesis 2: There is no significant relationship between tender evaluation process and performance of oil and gas sector in Nigeria.

The coefficient for the tender evaluation process is -0.199 with a ppp-value of 0.000, showing a highly significant negative impact on corporate performance. This result suggests that, contrary to expectations, the current tender evaluation process may hinder rather than enhance performance. The tender evaluation process has a statistically significant negative effect. This result may highlight procedural or structural issues in the evaluation process that could be impeding optimal corporate performance.

Hypothesis 3: There is no significant relationship between legal & regulatory framework and performance of oil and gas sector in Nigeria

The coefficient for legal and regulatory framework is 0.050 with a ppp-value of 0.203, which is not statistically significant at the 0.05 level. This lack of significance suggests that, within the model, the legal and regulatory framework does not have a clear impact on corporate performance.

While the hypothesis cannot be confirmed due to the non-significant effect, there is also no evidence to disprove it definitively. The result suggests that the legal and regulatory framework may have a neutral or indirect impact on corporate performance in this model.

Hypothesis 4: There is no significant relationship between supplier appraisal practices and performance of oil and gas sector in Nigeria.

Suppliers' appraisal practices have a positive impact on corporate performance.

Supplier appraisal practices have a positive coefficient of 0.411 with a highly significant ppp-value of 0.000. This strong significance and the positive direction of the coefficient indicate a robust positive effect of

supplier appraisal practices on corporate performance. The data supports a positive and statistically significant impact of supplier appraisal practices on corporate performance, suggesting that structured supplier assessments are essential for enhancing performance in this sector.

Hypothesis 5: There is no significant relationship between management commitment and performance of oil and gas sector in Nigeria.

The coefficient for management commitment is 0.141, with a ppp-value of 0.004, which is significant at the 0.05 level. This positive coefficient indicates that management commitment positively contributes to corporate performance. The results support the hypothesis, showing that management commitment has a positive and statistically significant impact on corporate performance. This finding underscores the importance of leadership support in driving sustainable and effective procurement practices in the oil and gas sector.

5.0 Conclusion and Recommendations

5.1 Conclusion

The findings of this study have several implications for procurement practices within Nigeria's oil and gas sector. This study examined the influence of procurement practices including supplier diversity, tender evaluation, regulatory frameworks, supplier appraisal, and management commitment on corporate performance within Nigeria's oil and gas sector. The results indicate that while some practices, such as supplier appraisal and management commitment, positively impact corporate performance, others, like supplier diversity and tender evaluation, present challenges in this particular context. These findings underline the need for strategic adjustments in procurement processes to better align with industry objectives and improve corporate outcomes. The study also highlights the importance of an adaptive regulatory framework and a supportive management structure that prioritizes systematic supplier evaluation. Overall, the findings emphasize that while procurement practices have potential to drive corporate performance, their impact is heavily influenced by the specific operational and regulatory environment within the Nigerian oil and gas industry.

5.2 Recommendations

It is recommended that companies in the oil and gas sector develop structured programs to support diverse suppliers. These may include training, development resources, and integration support to ensure that supplier diversity becomes an asset rather than a liability. The tender evaluation process should be streamlined to reduce bureaucratic delays and enhance transparency. This can be achieved through digitalization of the evaluation process, establishment of clear criteria, and reinforcement of accountability measures. Reforms are necessary to ensure alignment with the unique needs of the oil and gas sector. Companies should prioritize thorough supplier appraisal processes to ensure quality and reliability in their supplier base. Regular assessments, performance tracking, and feedback mechanisms can help sustain high standards and improve suppliers' contribution to corporate goals. Lastly, the positive influence of management commitment on performance underscores the importance of leadership in procurement practices. Companies should focus on cultivating a management culture that prioritizes procurement excellence, continuous improvement, and strategic alignment with corporate goals.

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