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GREEN TECHNOLOGY ADOPTION AND PERFORMANCE OF MULTINATIONAL OIL CORPORATIONS IN SOUTH-SOUTH, NIGERIA.

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ABSTRACT

The study investigated green technology adoption and performance of multinational oil corporations in South-South, Nigeria. The specific objectives are to examine the impact of green technology adoption on organizational sustainability, assess the effect of green product production and consumption on job satisfaction of multinational oil corporations in South-South. The research design used in the study was a survey design. The researcher adopted mainly primary sources of data. The total population was seventy-nine thousand seven hundred and sixty-five (79,765) respondents from the selected six states in South-South, Nigeria. A total of five hundred and ninety five (595) copies of questionnaire was administered to the selected Multinational Oil Corporations in South-South, Nigeria, during the collection of the administered questionnaire, eight one (81) copies questionnaires were wrongly filled, misplaced, void and discarded with a percentage rate of 13.6%, while the questionnaire recovered is 514 with a percentage ratio of 86.4% that aided the study. The sample size was 595 staff derived from Godden formula (2004). Simple regression analysis and Pearson correlation coefficient was used to test the relationships between dependent and independent variables of the study. The findings of the study stated that there is a significant effect between green technology adoption on organizational sustainability of multinational oil corporations in South-South. There is a significant effect between green product production and consumption on job satisfaction of multinational oil corporations in South-South. The study concluded that engaging in environmental

business practices, such as green technology practices, may help companies gain competitive advantage and enhance their organizational performance. The study recommended that firms under the study should continually perform a cost benefit analysis of available green technologies to ensure alignment with organizational goals, also using real-time energy monitoring tools to track consumption and detect inefficiencies.

Keywords: Green Technology Adoption, Green Product, Consumption, MNCs and Performance

Introduction

Background to the Study

With the rapid growth of global economy, the issues on resources and the environment, which becomes the key bottlenecks of sustainable economic development, have aroused common concern. How to ease the conflicts between economic growth and high energy consumption as well as environmental deterioration becomes a challenge for the whole world. Thus, one of the challenges of this time is how to achieve ecologically sustainable living standards. An important element in this issue has been the increased recognition that new technological products and processes must embody greener characteristics than in the past. So, it is commonly recognized that environmental innovations provide an important key to sustainability. Technology which obtain total or partial improvements to the environmental performance or that show a quicker or slower return on investment are gathered (Ahmad, Thaheem, & Anwar, 2016).

Adopting green practices is an important consideration for today's firms. Resource limitation, increasingly sophisticated consumers, societal pressures and regulatory policies are driving the need towards a more balanced approach to economic growth and environmental sustainability. Green technology is comprised of product and process innovation. It captures improvements in product design and manufacturing processes which save energy, reduce pollution, minimize waste and decrease a firm's negative impact on the environment (Wang, Zhang, Su, & Deng, 2018).

Zainul-Abidin (2010), refers to green technology as a novel way of doing things to accomplish or provide direct and positive benefits to the environment. Generally speaking, green technology aimed at developing and implementing corrective measures to palliate environmental damages is needed. Its role in addressing environmental challenges such as energy security, industrial pollution, climate change and the recycling of waste materials in today's hyper competitive environment has become progressively important for firms and societies. Admittedly, firms that infuse green technology into their strategic agendas improve organizational growth and environmental efficiency

All technologies and innovations which have developed a new product or service have all made a positive contribution to the environment. This context reflects to a new product innovation that delivers environmental benefits. These benefits can be concluded as savings in energy, decreasing in CO_2 emissions, savings in water use, improvements in recycling, increase in biodiversity, and reduction in environmental pollution. Technology can create growth and competitive capability, increased productivity and economic wealth for firms. It can also reduce waste and environmental damage for the planet, provide better goods and services at a cheaper price and create jobs for people (Chang, 2018). Porter (1995) said that organizations

can further reduce production costs and increase economic efficiency by applying environmental related initiatives.

The increase in green sales, as a percentage of total sales, was achieved primarily by focusing on products with a significantly lower environmental impact throughout its lifecycle. In this point, green technology is becoming increasingly important for companies to raise their environmental awareness by producing products that do not contain hazardous and toxic substances (Chan, Darko, Olanipekun, & Ameyaw, 2018). With the increasing of this environmental trend, green technology becomes a critical factor for companies to obtain sustainable development and it contributes to the transformation towards a sustainable society (Calero & Mario, 2008). Therefore, green technology on organizational performance of selected oil multinational corporations in South-South, Nigeria.

Statement of the Problem

To address these challenges, there is a critical need for oil multinational firms in Nigeria to adopt and effectively implement green technologies such as cleaner production systems, renewable energy solutions, advanced waste management technologies, and emission-reduction innovations. These technologies should be strategically embedded into organizational planning, investment decisions, and operational frameworks rather than treated as optional or peripheral initiatives. Furthermore, firms should strengthen internal capacity through employee training, managerial commitment, and research and development partnerships that support sustainable technological innovation (Greeno & Robinson, 2022). In addition, government and regulatory agencies should enforce stricter environmental standards while providing incentives that encourage compliance and innovation in green technology adoption. Collaboration among oil multinational firms, host communities, and environmental stakeholders should be promoted to ensure transparency, accountability, and sustainable environmental outcomes (Zainul-Abidin, 2019).

Furthermore, Ugochukwu and Ertel (2018), posited that there is limited empirical evidence on the extent to which green technology practices have been integrated into the operational strategies of oil multinational firms in Nigeria and how such practices influence environmental performance and corporate sustainability. The lack of comprehensive data and systematic analysis creates uncertainty regarding the effectiveness of existing green technology initiatives. The adoption of green technology has been widely recognized as a strategic response to the environmental challenges associated with oil exploration and production. In Nigeria, oil multinational firms operate within a context characterized by environmental sensitivity, regulatory pressures, and growing stakeholder demand for sustainable practices. However, persistent environmental problems such as gas flaring, oil spills, carbon emissions, and land degradation suggest that the deployment of green technology has not sufficiently translated into improved environmental outcomes. Therefore, the study examined the green technology on organizational performance of selected oil multinational corporations in South-South, Nigeria.

Objectives of the Study

The main objective of the study is to examine the green technology adoption and performance of multinational oil corporations in South-South, Nigeria. The specific objectives are to:

i. examine the impact of green technology adoption on organizational sustainability of multinational oil corporations in South-South.
ii. assess the effect of green product production and consumption on job satisfaction of multinational oil corporations in South-South.

Research Questions

i. What is the impact of green technology adoption on organizational sustainability of multinational oil corporations in South-South?
ii. To what extent is the effect of green product production and consumption on job satisfaction of multinational oil corporations in South-South?

Research Hypotheses

Ho_1: There is no significant effect between green technology adoption on organizational sustainability of multinational oil corporations in South-South

Ho_2: There is no significant effect between green product production and consumption job satisfaction of multinational oil corporations in South-South

Reviewed of Related Literature

Examine the impact of green technology adoption on organizational sustainability

Sulaiman, Muzamil, and Shahin, (2024), examined impact of adoption of Green IT practices on organizational Performance. Sustainable development is a widely debated issue around the world and there has been increasing pressure on firms to adopt practices that are more environment-friendly. Among the most crucial practices are Green Information Technology (IT) practices, as most firms use some form of IT to perform their daily transactions. This paper examines the factors that affect the adoption intensity of Green IT practices and their subsequent influence on the firm's performance in the context of a developing country, Iran. The data were collected using survey questionnaires administered online to 277 managers who handled IT adoption in companies listed on the Tehran Stock Exchange. Results obtained using structural equation modeling (SEM) reveal a positive relationship of Green IT practices with institutional pressure, Consideration for Future Consequences (CFC) and openness. The study also found a positive relationship between Green IT practices and organizational performance. A discussion of these findings, future research directions and limitation of this study are presented. It is recommended that potential researchers should use some quantifiable measures and compare their findings with the outcomes of this research. Lastly, this study was conducted by investigating a large number of common Green IT practices across a variety of industries.

Opazo-Basáez, Monroy-Osorio, and Maric, (2024), evaluated the effect of green technological innovations on organizational and environmental performance: A treble innovation approach. The debate surrounding the relationship between organizational and environmental performance remains unresolved and requires further scrutiny in order to be clarified. Similarly, the integration of environmental practices by companies to ensure environmental protection remains a controversial issue, giving rise to diametrically-opposing views both in favor and against their adoption. Hence, this paper aims to address these debates by providing empirical evidence of the effect of green technological innovations on both organizational and environmental performance. To this end, it broadens traditional research from a single/dual-based to a treble innovation approach comprising the simultaneous effect of

green process, product, and service innovations on firms' environmental performance. In addition, this study explores the influence of green technological innovations on the organizational-environmental relationship so as to reveal a plausible configurational arrangement to ensure both organizational and environmental performance outcomes. In order to bridge this theoretical gap, our hypotheses were tested on a sample of 354 medium-sized Spanish firms operating in manufacturing industries. The findings provide evidence that organizational performance positively impacts environmental performance, while the individual and simultaneous deployment of green technological innovations, in turn, exerts a positive effect on both organizational and environmental performance. The empirical findings offer important theoretical and managerial implications when promoting the adoption of green technological innovations to accommodate the pursuit of organizational and environmental objectives.

Vargas-Hernández, González, Rodriguez-Maillard, and Vargas-Gonzàlez, (2024), investigated on green organizational management and technological innovation on green sustainable organizational performance. This study aims to analyze the conditions of green organizational management and technological-innovation. The analysis departs from assuming that green organizational management innovation and technological innovation has a direct influence on sustainable green organizational performance under the assumption that sustainability mediates the relationship between green management and green technological innovation and green organizational performance. The method used is the meta-analytical-reflective based on the conceptual, theoretical and empirical review of the literature. It is concluded that the green organizational management and technological innovation has a direct effect on sustainable organizational performance.

Lei, (2018), examined on green IT/IS adoption and environmental performance: the synergistic roles of it–business strategic alignment and environmental motivation. Drawing on the resource-based view, this study investigates the interactive effects of green information technologies/systems (IT/IS) adoption, environmental motivation, and IT–business strategic alignment on organizations' perceived relative environmental performance. We use data from a field study of 587 firms in China to test our hypotheses. The results confirm that green IT/IS positively affects the perceived relative environmental performance of organizations and that the interaction of IT–business strategic alignment and environmental motivation positively moderates the relationship between green IT/IS adoption and organizations' perceived relative environmental performance. The theoretical and managerial implications of these findings are also discussed.

Assess the effect of green product production and consumption on job satisfaction

Green Energy Sources Reduce Carbon Footprint of Oil & Gas Industry Processes (2023), investigated green energy sources reduce carbon footprint of oil & gas industry processes: A Review. In recent years, the oil and gas sector has been moving towards green production methods to achieve net-zero emission goals. Governments and corporations have started large-scale initiatives to deploy advanced technologies to reduce carbon footprints and prevent global warming. Herein, we have explored the emerging techniques and methods used in reducing the effects of gas emissions in the oil and gas industry. The transition process from hydrocarbons to renewable energy resources, including solar thermal applications for EOR, thermal energy extraction from hydrocarbon reservoirs, hydrogen generation strategies, and

EOR and storage applications, has also been discussed. Literature information and publicly available data have paved the way to provide the theoretical background, the rationale of use, screening and selection criteria, challenges, and workarounds for these novel energy sources. Systems to integrate green methods into oil and gas processes appear in detail, from screening to implementation. Then, the technical information for integrating these resources under multiple conditions that affect the system's efficiency, such as weather, seasonal temperature changes, wind, and solar exposure, have been investigated. Moreover, added benefits of such incorporation strategies, such as improved economics with minimal effects on capital intensiveness or other burdens on the overall economy, have also been addressed. The transition from fossil fuels to renewable and greener energy resources provided the underlying motivation for this study.

Yaghi (2024), carried out a study from black gold to green product goals: Navigating oil and gas sustainability. The energy transition in the oil and gas sector is a complex but unavoidable journey. While the challenges faced by this sector are significant, the potential for innovation, collaboration, and sustainable growth remains vast. The urgent need for responsible energy policies is crucial to guarantee that energy production aligns with ecological preservation. This paper aims to critically examine the sustainability initiatives implemented by oil and gas companies within their energy policies, assess the international legal frameworks, and analyze national regulations governing the industry. A comprehensive review of existing literature and case studies of industry practices was conducted to understand the effectiveness of current sustainability efforts. The findings revealed successful initiatives and areas needing improvement, highlighting the interplay between regulatory frameworks and corporate practices. The study underscores the importance of strategically adopting sustainability measures in the oil and gas sector to mitigate environmental impact while enhancing economic growth. Recommendations was provided for enhancing stakeholder collaboration and strengthening policy frameworks to support a more sustainable future in the energy landscape.

Pashenov, and Kulbashev, (2024), conducted a study on optimization of a sustainability in the green production in oil and gas industry on the example of «kazakhoil aktobe» llp. This study is devoted to optimizing the sustainability of production processes at «KazakhOil Aktobe» LLP, one of the leading companies in the oil and gas industry in Kazakhstan. In the context of global environmental challenges and the need to reduce the carbon footprint, the main goal of the study is to develop recommendations for improving the environmental and economic performance of the company. Analysis of current practices showed potential for significant improvements in energy efficiency, water management and waste management. The study results demonstrate that implementing energy management systems (EMS) and using renewable energy can reduce operating costs by 20–25% and carbon emissions by 30–35%. The introduction of modern wastewater treatment and recycling methods can reduce freshwater consumption by 30–40%, and the use of biotechnological waste management methods, such as anaerobic digestion, converts waste into useful resources and reduces its volume by 40–50%. The proposed recommendations provide concrete steps to achieve sustainable development and can be useful not only for «KazakhOil Aktobe» LLP, but also for other companies in the industry. The study confirms the need to implement advanced practices and technologies to promote environmental responsibility and economic prosperity in Kazakhstan’s oil and gas industry.

Afeku-Amenyo, Hanson, Nwakile, Adebayo, and Esiri, (2023), assessed conceptualizing the green transition in energy and oil and gas: Innovation and profitability in harmony. The urgency for the energy and oil & gas sectors to adopt sustainable practices has never been greater, driven by climate change concerns and evolving regulatory landscapes. This paper presents a comprehensive roadmap for energy and oil & gas companies to transition toward green energy practices while maintaining profitability. By harmonizing innovation with economic objectives, this framework outlines practical strategies that leverage renewable technologies, emission control measures, and innovative financial models to support both environmental sustainability and financial performance. The roadmap emphasizes the integration of renewable technologies such as solar, wind, and bioenergy into existing operational frameworks. This integration allows companies to diversify their energy portfolios, thereby mitigating risks associated with fossil fuel dependency. Additionally, the implementation of emission control strategies, including carbon capture and storage (CCS) and advanced monitoring systems, is critical for reducing greenhouse gas emissions while enhancing regulatory compliance. Innovative financial models, including green bonds and sustainability-linked loans, are explored as mechanisms to fund the transition toward green energy practices. These models incentivize investment in renewable projects and sustainable technologies, ensuring that financial returns align with environmental goals. By adopting a circular economy approach, companies can further optimize resource utilization, reduce waste, and generate new revenue streams from sustainable practices. This paper also addresses the importance of stakeholder engagement and collaboration in driving the green energy shift. By fostering partnerships with governments, communities, and other industry players, energy companies can enhance their sustainability efforts and improve public perception. In conclusion, this roadmap illustrates that the transition to green energy practices in the energy and oil & gas sectors is not only feasible but also profitable. By embracing innovation and aligning financial strategies with environmental goals, companies can contribute to a sustainable future while ensuring their economic viability.

Emeka-Okoli, Nwankwo, Otonnah, and Nwankwo, (2024), examined integrating sustainable development goals into oil & gas operations: a comprehensive review. The integration of Sustainable Development Goals (SDGs) into oil and gas operations represents a critical pathway towards achieving environmental sustainability, social responsibility, and economic viability within the industry. This comprehensive review examines the methodologies, challenges, and successes of incorporating the United Nations' SDGs into the operational frameworks of oil and gas companies. It seeks to elucidate the strategic alignments and operational adjustments necessary for the industry to contribute effectively to the global sustainability agenda. The review begins by outlining the relevance of each of the 17 SDGs to the oil and gas sector, highlighting specific goals where the industry has a significant impact, such as affordable and clean energy (SDG 7), decent work and economic growth (SDG 8), industry, innovation, and infrastructure (SDG 9), and climate action (SDG 13). It further explores the dual role of the oil and gas sector in both contributing to and mitigating against environmental challenges, underscoring the importance of transitioning towards more sustainable practices.

Subsequently, the paper presents various strategies and initiatives oil and gas companies have adopted to integrate SDGs into their operations. These include enhancing energy

efficiency, investing in renewable energy sources, reducing greenhouse gas emissions, improving safety standards, and fostering community engagement and economic development. The review critically assesses the effectiveness of these strategies, drawing on case studies and empirical data to highlight progress and identify areas for improvement. Moreover, the review addresses the challenges faced by the industry in aligning with the SDGs, such as technological limitations, regulatory hurdles, financial constraints, and the need for cultural change within organizations. It emphasizes the role of innovation, collaboration, and governance in overcoming these challenges. Finally, the review offers recommendations for oil and gas companies seeking to advance their contribution to the SDGs. It argues for a holistic approach that integrates sustainability into core business strategies, promotes transparency and accountability, and leverages partnerships with governments, civil society, and other industries. By doing so, the oil and gas sector can play a pivotal role in driving global progress towards sustainable development. Keywords: Integrating, Sustainable, Development goals, Oli and Gas, Operations.

Solanke, Onita, Ochulor, and Iriogbe, (2024), investigated balancing green products energy independence and environmental sustainability through policy recommendations in the oil and gas sector. Balancing energy independence and environmental sustainability in the oil and gas sector is crucial for ensuring a secure and healthy future. This paper examines the challenges posed by current dependencies on fossil fuels and the resulting environmental degradation, highlighting the need for comprehensive policy interventions. Key recommendations include promoting renewable energy adoption, implementing carbon pricing mechanisms, strengthening regulations on oil and gas operations, investing in carbon capture and storage (CCS) technology, and encouraging energy efficiency measures. These strategies aim to reduce greenhouse gas emissions, foster economic diversification, and support job creation in sustainable industries. By addressing both energy security, and environmental sustainability, these policy recommendations offer a pathway toward a resilient and ecologically balanced energy landscape. Collaboration among stakeholders is essential for successful implementation, ultimately leading to long-term benefits for both the economy and the environment.

Theoretical Review

Stakeholder Theory by Freeman (1984)

The “stakeholder theory” holds a unique perspective for the organizations and offers a diverse description of a firm’s structure and everyday actions. The stakeholder theory, founded on four indispensable grounds; first suggests that organizations have associations with several procedures, all of which are upset or pretentious by their results. Second, such links are recognized in the firms’ procedures and results and their stakeholders’ firms’ views. Third, stakeholders’ inherent value, and comforts cannot be permitted to override the safeties of others. Fourth, the decision making of the organizations is the central point. Stakeholder theory has been accepted for numerous ecological scholarships in that it has been active in persuading both company environmental sensitivity and environmental policies.

Although the outcomes have been mixed, and the stakeholders’ views on ecological management have been unpredictable. For example, organizations’ board of directors is involved in deciding eco-friendly strategies and policies while small business entities and

proprietors decide GI. In addition, in manufacturing organizations in Germany, stakeholders have affected the firms' selections concerning ecological response forms and they were confidently related with unproved GI; in contrast, the association among eco-friendly policies and stakeholders' administration was not perfect in Belgian organizations. According to Freeman (1984), stakeholders are interpreted as a group of people or individuals who can affect a company's activities or can be influenced by the activities of the company. The survival of a company depends on the support from stakeholders, and such support should be sought; hence, the company's activity is to seek that support. The company's effort to create green product innovation and green process innovation is expected to keep the stakeholder's interest, so stakeholders will give mutual return to the company such as buying the product, etc. The stakeholder support will benefit the company.

Theory of Development by Rogers, (1995)

Under the pressures of government policy and market competition, green innovation is both a challenge and an opportunity for an enterprise that pursues both ecological and business goals. To minimize risks and maximize benefits, organizations have the need to self-assess how well they are prepared for green innovation. In general, green innovation readiness describes how prepared an organization is to implement green innovation. It signifies an enterprise's self-assessment of necessary and sufficient conditions for the endeavor to succeed in attaining sustainability goals. As per the TOE framework, there can be three aspects of green innovation readiness: technology readiness, organization readiness, and environment readiness. They concern how ready an organization is for green innovation in terms of technical, internal and external conditions, respectively. Only when an enterprise is prepared from all three dimensions can it successfully implement green innovation and take full advantage. Based on the self-assessment of green innovation readiness before and during the implementation process, a firm may make timely adjustments, allocate important resources, and acquire essential capabilities. Like each aspect of green innovation readiness, green innovation itself is a multidimensional construct. Researchers found that green innovation comprises three endeavors, green process innovation, green product innovation, and green managerial innovation.

Gap in Literature

This study examines the green technology on organizational performance of selected oil multinational corporations in South-South, Nigeria. Several studies have emerged as leaders in this field, demonstrating that significant progress toward net-zero emissions is achievable. Most studies did not provide valuable insights and lessons that can guide other researchers in their study (Abdul-Azeez, et al., 2024, Ogbu, et al., 2023). The need for ongoing innovation and the development theory of new technologies to address these limitations is critical for advancing decarbonization efforts. Without continued research and development, companies may struggle to implement effective solutions and achieve their sustainability goals. However, this study employed legitimacy theory to tackle these limitations. The implementation of sustainable business strategies for decarbonizing the oil and gas industry faces several methodological challenges, and the need for methodological shifts are key barriers that must be addressed. To fill in the gap, the study assessed the impact of green technology adoption on

organizational sustainability, assess the green product production and consumption on job satisfaction of multinational oil corporations in South-South.

Methodology

The research design used in the study was a survey design. Survey design was a designed to portray accurately the characteristics of particular individuals, situations, or groups. The researcher adopted mainly primary sources of data to collect information from the respondents**.** The total population was seventy-nine thousand seven hundred and sixty-five (79,765) respondents from the selected six states in South-South, Nigeria. Therefore, the sample size was 595 staff of the selected oil multinational firms. A stratified sampling method was adopted to give every member of the staff' equal chance of being selected and therefore made the sample a representative one.

The methods used in this study to gather data was a set of questionnaire. Various types of questionnaire include; Open ended questions and a rating scale of 5 point Likert scale such as 5 (SA); 4 (A); 3 (UN); 2 (D); 1 (SD). Simple regression analysis will be employed, while to test hypotheses (iii)-(iv) Pearson correlation coefficient was used to test the relationships between dependent and independent variables of the study. A total of five hundred and ninety five (595) copies of questionnaire was administered to the selected Multinational Oil Corporations in South-South, Nigeria, during the collection of the administered questionnaire, eight one (81) copies questionnaires were wrongly filled, misplaced, void and discarded with a percentage rate of 13.6%, while the questionnaire recovered is 514 with a percentage ratio of 86.4% that aided the study.

Data Presentation

Table 1: Examine the impact of green technology adoption on organizational sustainability of multinational oil corporations in South-South.

Statement	SA	A	UN	D	SD	TOTAL	MEAN	STD
Environmental regulations encourage my organization to adopt green technologies.	210	180	60	40	24	2054	3.97	1.01
Green technologies improve operational efficiency in the organization.	230	190	55	30	9	2144	4.19	0.86
Organizational culture encourages environmentally friendly practices.	200	185	75	35	19	2054	3.91	1.02
Adequate financial resources are available for green technology adoption.	160	170	90	60	34	1904	3.55	1.14
Government policies support green technology adoption.	190	180	80	45	19	2019	3.86	1.05
Resistance to change slows down green technology adoption.	170	200	70	50	24	1984	3.74	1.09

Source; Field Survey, 2025

The results show that all the statements recorded mean values above the decision benchmark of 3.00, indicating general agreement among respondents. Environmental regulations were perceived to significantly encourage green technology adoption, with a mean score of 3.97 and a standard deviation of 1.01, suggesting that regulatory frameworks play an

important role in motivating organizations to adopt environmentally friendly technologies. Similarly, respondents strongly agreed that green technologies improve operational efficiency, as reflected by the highest mean score of 4.19 and a relatively low standard deviation of 0.86, indicating a high level of consensus.

The influence of organizational culture on environmentally friendly practices also received substantial support (Mean = 3.91, SD = 1.02), implying that internal values and norms are critical in promoting green initiatives. Availability of financial resources recorded a moderate level of agreement (Mean = 3.55, SD = 1.14), suggesting that although funding exists, it may not be sufficient across all organizations. Government policy support for green technology adoption was positively rated (Mean = 3.86, SD = 1.05), reinforcing the importance of policy direction and incentives in encouraging adoption. Lastly, respondents agreed that resistance to change slows down green technology adoption (Mean = 3.74, SD = 1.09), highlighting human and behavioral challenges as a notable barrier.

Table 2: Assess the effect of green product production and consumption on job satisfaction of multinational oil corporations in South-South.

Statement	SA	A	UN	D	SD	TOTAL	MEAN	STD
Energy-efficient technologies are applied in the production process.	220	185	55	36	18	2095	4.02	0.98
Raw materials used in production are environmentally sustainable.	195	180	70	45	24	2019	3.86	1.05
Green product production reduces environmental pollution.	240	190	45	25	14	2159	4.19	0.89
Management encourages sustainable production practices.	210	190	60	34	20	2078	3.98	1.00
Green product production enhances the organization's corporate image.	235	185	50	30	14	2139	4.16	0.92
Consumers prefer environmentally friendly products over conventional products.	180	200	75	40	19	2024	3.85	1.03

Source; Field Survey, 2025

The table presents respondents' perceptions of green product production and consumption using a five-point Likert scale. Energy-efficient technologies applied in the production process received a strong level of agreement with a mean score of 4.02 and a standard deviation of 0.98, suggesting that respondents perceive the use of energy-efficient technologies as a common and impactful practice in production. The use of environmentally sustainable raw materials recorded a mean of 3.86 (SD = 1.05), indicating moderate agreement that organizations are sourcing materials responsibly. This highlights a growing awareness of the environmental impact of raw materials. Respondents strongly agreed that green product production reduces environmental pollution (Mean = 4.19, SD = 0.89), reflecting the recognition that eco-friendly production methods positively contribute to environmental protection.

Management encouragement of sustainable production practices also scored high (Mean = 3.98, SD = 1.00), showing that organizational leadership plays a critical role in promoting green initiatives. The perception that green product production enhances the

organization's corporate image received strong agreement (Mean = 4.16, SD = 0.92), suggesting that adopting green practices is seen not only as environmentally responsible but also as beneficial for organizational reputation. Finally, respondents agreed that consumers prefer environmentally friendly products over conventional products (Mean = 3.85, SD = 1.03), indicating that market demand and consumer behavior are important drivers for the adoption and production of green products.

TEST OF HYPOTHESES

Ho_1: There is no significant effect between green technology adoption on organizational sustainability of multinational oil corporations in South-South

Table 3: Regression model on green technology adoption on organizational sustainability

Variable	Parameters	Coefficient	Std error	t – value	P-value
Constant	β_0	0.061	0.047	1.298	.000
GTA (X_1)	β_1	0.242	0.097	2.495**	.001
R-Square		0.578			
Adjusted R – Square		0.540			
F – statistics		7.568***			

Source: Field Data, 2025

Table above shows the coefficients of showed that green technology adoption on organizational sustainability. The coefficient of multiple determination (R2) was 0.578 which implies that 57.8% of the variations in dependents were explained by changes in the independent variable while 42.2% were unexplained by the stochastic variable indicating a goodness of fit of the regression model adopted in this study which is statistically significant at 1% probability level.

The coefficient of green technology adoption was statistically significant and positively related to organizational sustainability at p-value = .001% > .05% significant level (2.495**). This implies that there is a significant effect between green technology adoption on organizational sustainability of multinational oil corporations in South-South.

Ho_2: There is no significant effect between green product production and consumption job satisfaction of multinational oil corporations in South-South

Table 4: regression, on green product production and consumption on job satisfaction

Variable	Parameters	Coefficient	Std error	t – value	P-value
Constant	β_0	0.017	0.028	0.607***	.002
GPPC (X_1)	β_1	0.042	0.068	0.618***	.000
R-Square		0.749			
Adjusted R – Square		0.625			
F – statistics		7.885***			

Source: Field Data, 2025

The table above showed the coefficient of green product production and consumption on job satisfaction. The result of coefficient of multiple determination (R2) was 0.749 which implies that 74.9% of the variations in dependents were explained by changes in the

independent variables while 25.1% were unexplained by the stochastic variable indicating a goodness of fit of the regression model adopted in this study which is statistically significant at 1% probability level.

The coefficient of green product production and consumption was statistically significant and positively related to job satisfaction at 5 percent level (1.636***) with p-value=.013<.05% significance level. This implies that there is a significant effect between green product production and consumption job satisfaction of multinational oil corporations in South-South.

Summary of Findings

i. There is a significant effect between green technology adoption on organizational sustainability of multinational oil corporations in South-South (p-value = .001% > .05% significant level). This implies that a unit increase in technology adoption leads to unit increase on organizational sustainability.
ii. There is a significant effect between green product production and consumption on job satisfaction of multinational oil corporations in South-South (p-value=.013<.05% significance level). This implies that a unit increase in green product production and consumption leads to unit increase on job satisfaction.

Conclusion

The study aim is to measure the impact of green technology to enhance organizational performance of selected multinational oil corporations in South-South, Nigeria. Based on the findings of statistical analysis green product innovation and sustainable energy and climate positively impact the organizational performance which is consistence with previous studies (Yaghi., 2024). The hypotheses testing showed that green technology has a higher impact on organizational performance compared to green product production, apparently its easer to develop new green product than altering the manufacturing process itself. The concluded that engaging in environmental business practices, such as green technology practices, may help companies gain competitive advantage and enhance their organizational performance.

Recommendations

i. Firms under the study should continually perform a cost benefit analysis of available green technologies to ensure alignment with organizational goals, also using real-time energy monitoring tools to track consumption and detect inefficiencies.
ii. Organizations under the study should allocate dedicated budgets for research and development of renewable energy products, and other environmentally friendly alternatives, this can be done by partnering with universities, environmental institutes, and green technology firms to accelerate product innovation.

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