

EFFECT OF GREEN MANAGEMENT INNOVATION ON ORGANIZATIONAL SUSTAINABILITY IN SOUTH EAST NIGERIA

¹Peterson Nwokorie, Ph. D and ²Egbo Doris Ebenouvbe, Ph. D

¹Department of Management, Faculty of Management Science, Imo State University (IMSU), Owerri

²Department of Business Education, ESCET, Enugu State, Nigeria.

DOI: <https://doi.org/10.5281/zenodo.17964872>

Abstract: *The study examined the effect of green management innovation on organizational sustainability in South East Nigeria. The specific objectives were to examine the effect of Energy Efficiency Practices on organizational sustainability and evaluate the effect of Waste Management Systems on organizational sustainability in South East Nigeria. A descriptive cross-sectional research design was adopted for this study. A structured questionnaire design with a five-point Likert scale was used to collect data for the study. The data collected were analyzed using SPSS version 26.0, and simple linear regression analysis was employed to test the hypotheses. The result revealed that energy efficiency practices have a significant positive effect on organizational sustainability with a P-value of $(0.019 < 0.05)$. Waste Management Systems has a significant positive effect on organizational sustainability with a P-value of $(0.019 < 0.05)$ in South East Nigeria. The study concluded that green management innovation has a significant positive effect on organizational sustainability in South East Nigeria. Organizations should invest in energy-efficient technologies and processes, such as the use of LED lighting, energy-efficient appliances, and renewable energy sources. Conducting energy audits can help identify areas for improvement and track savings.*

Keywords: *Green Innovation, Management, Organizational Sustainability*

1.1 Introduction

In the face of mounting global concerns about climate change, environmental degradation, and unsustainable resource exploitation, businesses are under increasing pressure to adopt practices that balance profitability with environmental responsibility. One prominent response to these demands is Green Management Innovation (GMI), which entails the development and integration of environmentally oriented managerial practices, processes, and strategies that simultaneously enhance organizational performance and promote sustainability (Chen et al., 2022). Green management

innovation emphasizes not only eco-friendly technologies and processes but also renewed managerial philosophies anchored on environmental stewardship, cost-efficiency, and long-term competitiveness. Globally, organizations are turning to GMI as a means of achieving organizational sustainability, which embodies the integration of economic, social, and environmental dimensions into long-term business strategies (Kraus et al., 2020). Green management initiatives such as sustainable supply chain practices, adoption of renewable energy, eco-design, green human resource management, and efficient waste management have been shown to improve stakeholder trust, reduce operating costs, and strengthen resilience against regulatory and environmental risks (Yusliza et al., 2020; Zhang et al., 2022). In addition, GMI has been linked to greater reputational capital and competitive advantage in markets where environmental awareness significantly influences consumer behavior (Fernando et al., 2019). In the Nigerian context, particularly in the South East region, organizations face unique sustainability challenges. These include inconsistent regulatory enforcement, infrastructural deficits, rising production costs, and societal pressure to balance rapid industrial growth with environmental conservation (Okafor & Onuoha, 2021). Many firms in South East Nigeria, particularly in manufacturing and service industries, operate in environmentally sensitive areas where ecological concerns—such as waste pollution, carbon emissions, and resource depletion—are prevalent. Thus, adopting green management innovations is increasingly seen not as an optional initiative but as a strategic necessity for ensuring long-term organizational sustainability within the local socio-economic and ecological environment (Amah & Nwokah, 2019).

The effect of GMI on sustainability in South East Nigeria is particularly important because it provides a dual opportunity: on one hand, it allows firms to align with global sustainability standards (such as the United Nations' Sustainable Development Goals), and on the other hand, it enables organizations to enhance operational performance and resilience in a volatile business environment (UN, 2021). Recent studies argue that integrating environmentally friendly innovations into management practices boosts not only environmental outcomes but also financial strength, employee engagement, and brand positioning (Chen et al., 2022; García-Machado & Martínez-Ávila, 2019).

Therefore, examining the effect of green management innovation on organizational sustainability in South East Nigeria is of practical and theoretical importance. Practically, it addresses how firms in the region can achieve ecological balance while improving growth and competitiveness. Theoretically, it contributes to the growing discourse on sustainability management by exploring how GMI functions in developing economies where environmental pressures are high, but institutional support systems for green practices remain relatively weak.

1.2 Statement of the Problem

In recent years, the concept of green management innovation has gained prominence as organizations strive to integrate sustainable practices into their operations. However, in South East Nigeria, there is a notable gap in understanding the effect of green management innovation on organizational sustainability. Despite the increasing awareness of environmental issues and the potential benefits of adopting sustainable practices, many firms in this region continue to face challenges in effectively implementing green innovations.

The lack of empirical evidence regarding how green management innovations influence organizational sustainability raises critical concerns for businesses aiming to enhance their environmental performance and competitive advantage. Additionally, contextual factors such as economic constraints, regulatory environments, and cultural attitudes toward sustainability may further complicate the adoption of green practices in this region.

This problem is exacerbated by insufficient research that specifically addresses the unique challenges and opportunities faced by organizations in South East Nigeria. As a result, there is an urgent need to explore the relationship between green management innovation and organizational sustainability, identifying key drivers and barriers to effective implementation. Understanding this relationship is essential for developing strategies that not only promote environmental stewardship but also ensure the long-term viability of organizations in the region.

1.3 Objective of the Study

The main objective of the study is to examine the effect of green management innovation on organizational sustainability in South East Nigeria. The specific objectives were to;

- i. Examine the effect of Energy Efficiency Practices on organizational sustainability in South East Nigeria.
- ii. Evaluate the effect of Waste Management Systems on organizational sustainability in South East Nigeria.

1.4 Hypotheses of the study

- i. Energy Efficiency Practices have no significant effect on organizational sustainability in South East Nigeria.
- ii. Waste Management Systems has no significant effect on organizational sustainability in South East Nigeria.

Review of Related Literature

2.1 Conceptual Review

Green Management Innovation (GMI)

For many people, minimizing negative environmental effects is becoming a way of life. Businesses have also come to embrace this practice. The term "green management Innovation" describes an organization's attempts to reduce its environmental impact by using effective procedures. The company's first concern should be environmental issues. Green innovation in management, according to Weng, Chen, and Chen (2015), is creating new business models and procedures that lessen their negative effects on the environment and increase resource efficiency while preserving or boosting a company's competitiveness. Song and Yu (2018). In order to achieve sustainable growth and competitive advantage through eco-friendly inventions, green management innovation is a strategic approach that incorporates environmental considerations into organizational management processes. According to Ilvitskaya and Prihodko (2018), recent research defines GMI as "the new or modified products and processes, including technology, managerial, and organizational innovations, which help to sustain the surrounding environment." GMI is separated into two categories: "green process inventions," often known as "greening" business methods, and "green product innovations," which include offering new green goods to customers (Tang et al., 2018).

Furthermore, ecological management has emerged as a crucial component of many businesses' strategic goals and tactical strategies as a result of the rising customer-centered concerns regarding environmental preservation (Khan et al., 2019). The adoption of novel management techniques, processes, and strategies that assist businesses in achieving environmental sustainability and improving organizational performance by lowering resource consumption and environmental degradation is known as "green management innovation," according to Xie, Huo, and Zou (2019). Green innovation, according to the OECD (2020), refers to new or enhanced goods, procedures, advertising, or organizational improvements that lessen environmental damage. In particular, green management innovation entails managerial or organizational adjustments that promote this environmental performance. According to Yusliza et al. (2020), green management innovation is the process of incorporating environmental practices and technology into an organization's strategic management in order to promote environmental stewardship and sustainability objectives. In order to attain both ecological and economic benefits, Tang, Walsh, and Lerner (2022) define "green management innovation" as "managerial practices and policies that encourage environmental innovation in goods, services, and business models."

Energy Efficiency practices

Brown and Dekay (2014) define energy efficiency techniques as the proportion of a system, process, or technology's usable energy output to its energy input. It gauges how well energy is transformed and used to carry out a certain operation or produce a desired result while reducing waste and losses. The goal of energy efficiency methods is to reduce energy input while preserving occupant comfort and functionality through deliberate interventions in building design, construction, and operation. Techniques and tools that reduce energy use in commercial, residential, and industrial settings without sacrificing output or productivity are known as energy efficiency techniques. Capehart, Turner, and Kennedy (2020). Energy efficiency is "the ratio between the useful output of an energy conversion process and the input, in energy terms," according to the International Energy Agency (2020). Heat, electricity, or mechanical labor might be the valuable output. Energy efficiency techniques are efforts made to use energy more efficiently, according to the United States Environmental Protection Agency (2022). To lower energy demand and greenhouse gas emissions, these strategies include modernizing machinery, streamlining procedures, and altering consumer behavior. According to the European Commission (2023), energy efficiency is the use of less energy to accomplish the same activity. Energy efficiency techniques are important steps in technological and regulatory frameworks to cut down on energy waste and meet sustainability targets. Energy efficiency methods, according to the U.S. Department of Energy (2024), include putting in place systems, technology, and behavioral adjustments that lower the energy needed to produce goods and services. A more precise definition of energy efficiency is given by Shehabi et al. (2016), who define it as "the ratio of useful energy output from an energy conversion device to the energy input to that device." The core idea of energy efficiency is emphasized by these definitions, which stress the need to maximize energy efficiency and cut waste across a variety of sectors, such as buildings, appliances, transportation, and industry. By lowering greenhouse gas emissions and dependency on finite energy supplies, energy efficiency is essential for energy security, sustainable development, and environmental impact mitigation.

Organizational Sustainability

According to Varsei et al. (2014), workplace sustainability entails incorporating sustainable development principles—such as social equity, economic efficiency, and environmental awareness—into daily business operations. Sustainability in organizations refers to tactics and procedures that improve the organization's long-term financial performance as well as its social and environmental impact (Epstein & Buhovac, 2014). According to Varsei et al. (2014), organizational sustainability refers to the process of incorporating the objectives of sustainable development, such as economic efficiency, social justice, and environmentally friendly practices, into the operational environment of various enterprises. Conversely, "adopting organizational strategies and activities that meet the needs of the

enterprise and its stakeholders today while protecting, sustaining, and enhancing the human and natural resources that will be needed in the future" is what is meant by organizational sustainability. Three rings were emphasized by Elkington (2015) as indicators of sustainability: profit, planet, and people, which stand for social, environmental, and economic sustainability, respectively. According to Engert, Rauter, and Baumgartner (2016), the "triple bottom line" (TBL) concept highlights how businesses are working toward sustainability by meeting customer demands, improving products and services, and maximizing profits while continuously addressing social and ecological issues.

Nonetheless, Hunt (2016) asserts that organizational sustainability is a multifaceted process founded on efficacy and efficiency that emphasizes knowledge, capacity building, networks of partners, outcomes, and goods and services. Accordingly, sustainability concerns must be continuously integrated into an organization's strategy, management, operations, and production (Rodríguez-Olalla and Avilés-Palacios, 2017; Lozano, 2018). Over time, organizational sustainability issues frequently change. Sustainability in the manufacturing sector refers to the fundamentals of environmentally friendly products or services, while the methods used to achieve them differ in their intended use. Sustainability might differ amongst industries, such as manufacturing and services.

Waste Management Systems

According to Igbinomwanhia (2011), waste management is the application of a deliberate combination of techniques to effectively move garbage from its source to its ultimate disposal site in order to maintain a safe environment and save expenses. Many governments have acknowledged waste management as a complicated global issue, with emerging countries receiving particular attention. Sridhar (2017) defines waste as any material that, given its composition, has no future use, such as trash, rubbish, junk, household items, or ashes. It might be contagious, dangerous, non-hazardous, or domestic. Every country in the twenty-first century has demonstrated a remarkable dedication to addressing the worldwide problem of solid waste management, particularly when formulating environmental and public health policies (Okoli et al., 2020). Due to ongoing economic expansion, urbanization, and industrialization, solid and hazardous waste volumes and varieties have rapidly increased. Several techniques are used to dispose of solid waste in urban areas. Nonetheless, techniques include recycling, anaerobic digestion, composting, landfilling, and incineration (Abila & Kantola, 2017). According to Demirbas (2021), waste management is the process of collecting, moving, and processing waste before disposing of any leftovers. The efficient supervision and management, storing, collecting, transporting, treating, and disposing of garbage in a way that protects the environment and the general public is also how Tchobanoglous defines solid waste management. In order to handle waste management difficulties daily, Tchobanoglous continued, solid waste management uses expertise and

knowledge from a variety of disciplines, including legal, financial, and administrative. According to Demirbas (2021), the primary goal of waste management is to maintain a safe environment.

2.2 Theoretical Review

Institutional Theory

Institutional theory posits that organizations adopt environmentally sustainable practices due to regulatory, normative, and cultural pressures (DiMaggio & Powell, 1983). Institutional theory focuses on the variety of institutions that are responsible for external and internal pressures on the organization, as well as the corresponding organizational responses that have been established within each business. Institutional theory is well adapted to explain the factors related to organizational supply because of the nature of green logistics management practice. Governments enforcing green logistics regulations and consumer demand for eco-friendly products drive firms to incorporate sustainability. The concepts of sustainability, as measured in the three dimensions of social, economic, and environmental, are primarily associated with the triple bottom line approach and its varied expectations. Institutional theory posits that organizations are influenced by their external environment, including the norms, values, and expectations of their stakeholders (Lok, 2019).

2.3 Empirical Reviews

Ziolkowska and Ziolkowski (2015) used a dynamic dematerialization paradigm to examine energy efficiency in the transport sector of the European Union (EU)-27. The analysis assesses whether the industry has attained sustainable patterns of energy use and how advancements in energy efficiency fit in with more general environmental and financial objectives. The analysis used yearly data from the EU-27 nations from the early 1990s until 2012. The findings showed that over the research period, the EU-27's transportation industry had modest gains in energy efficiency.

Llorca and Jamasb (2017) investigated rebound effects and energy efficiency enhancements in the European road freight transport industry. The study investigates whether advances in energy efficiency resulted in fuel consumption reductions that were proportionate or whether the anticipated advantages were negated by a rebound effect. The research used econometric methods for panel data. The findings demonstrated that increased freight activity counteracted a significant amount of energy efficiency benefits, indicating that energy efficiency measures by themselves are not enough to provide proportionate drops in energy use.

Research by Venkateshwarlu (2020) examined waste management and its effects on social, economic, health, and environmental factors. With an emphasis on improved water quality, less indoor and outdoor air pollution, and mitigating the effects of climate change, this study reviews the literature on valuation studies that extract monetary values linked to decreased environmental risk. A journalistic investigation was used in the study, along with data from regulatory and environmental sources. The

findings showed that improving access to clean energy, sanitation, and drinking and bathing water sources, as well as reducing exposure to environmental risk factors through improved air quality, is linked to significant health benefits and can help achieve the Millennium Development Goals of environmental sustainability, health, and development.

In Nigeria, Olayiwola et al. (2023) studied environmental sustainability and waste management administration. The purpose of this study was to ascertain how environmental sustainability and waste management administration relate to each other in Lagos, Nigeria. Even though garbage creation is an unavoidable consequence of human activity, many countries still struggle with effective refuse management. We carried out this inquiry with this notion in mind. 250 of the 700 waste administrators in the Ikeja Local Government Area that made up the research population were selected using the Yamen sampling method. Of the 250 issued surveys, however, 233 were recovered. Using linear regression (at a significance threshold of 5% or 0.05), the ANOVA and coefficient findings were determined. The findings showed that garbage disposal, waste separation, and environmental cleanliness were negatively correlated with the operations of waste management agencies and environmental sustainability. Additionally, it was shown that pollution control and garbage recycling were negatively correlated.

3.0 Research Design and Methods

A descriptive cross-sectional research design was adopted for this study. Respondents were randomly selected from organizations across Southeast Nigeria, covering departments such as administration, operations, human resources, and finance. A structured questionnaire design with a five-point Likert scale was used to collect data for the study. A simple random sampling technique was employed to select respondents and firms. Data were analyzed using SPSS version 26.0, and simple linear regression analysis was employed to test the hypotheses. The purpose of this study was to examine the effect of green management innovation on organizational sustainability in Southeast Nigeria.

3.1 Model Specification

Based on the link between predictors and dependent variables, simple linear regression analysis is the model specification employed in this study endeavor.

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \mu \dots \dots \dots (1)$$
$$Y = f(X)$$

Where,

Y=Dependent variable represented by Organizational Sustainability

x_1 = Predictors variable (Energy Efficiency Practices)

x_2 = Predictors variable (Waste Management Systems)

β_0 = Slope or intercept

β_1 = Regression coefficients

μ = Error term

4. Data Analysis and Interpretation

The data collected from respondents in the various firms under study are presented, analyzed, and interpreted in this part. To meet our goal for this study, the replies were categorized by categorizing them using a Likert scale approach. A study of the structured questionnaire was conducted utilizing a social science statistical software (SPSS version 26.0).

Table 1: Response Rate

| | Frequency | Percentage | Cumulative Percent |
|------------|-----------|------------|--------------------|
| Returned | 151 | 86.29 | 86.29 |
| Unreturned | 24 | 13.71 | 100 |
| Total | 175 | 100 | |

Source: Field Work 2024

One hundred seventy-five (175 copies) of the questionnaires were distributed, but only one hundred and fifty-one (151) of them were returned, and the remaining copies were not. There were 24 unreturned items (24). The following are some of the causes for the unreturned.

- A few respondents lost the questionnaire given to them.
- A few respondents reluctantly did not respond to the questionnaire and lastly few others ticked two answers for a question, and this was recorded as a void to avoid incorreced interpretations.

Energy Efficiency Practices

The instrument sought to find out about Energy Efficiency Practices.

Table 2: Energy Efficiency Practices

| Statement | Strongly Agree | Agree | Neutral | Strongly Disagree |
|-------------------------------------------------------------------------------------------------|----------------|-----------|-----------|-------------------|
| A well-defined Energy Efficiency Practices enhances the overall performance of my organization. | 47(30.9%) | 69(45.4%) | 24(15.8%) | 12(7.2%) |
| Clear reporting lines in the organization improve accountability. | 55(36.2%) | 63(41.4%) | 14(14.5%) | 10(6.6%) |
| The energy efficiency practices support effective communication among employees. | 53(34.9%) | 64(42.1%) | 23(15.1%) | 12(7.8%) |

| | | | | |
|----------------------------------------------------------------------------------|-----------|-----------|-----------|----------|
| The Energy Efficiency Practices of my organization allows quick decision-making. | 41(26.9%) | 66(43.4%) | 31(20.4%) | 14(9.2%) |
|----------------------------------------------------------------------------------|-----------|-----------|-----------|----------|

Source: Field work 2025

Energy Efficiency Practices enhances the overall performance of an organization, the findings revealed that 31% strongly agreed and 45% agreed. Because a greater percentage of respondents agreed, this implies that there is clear evidence that a well-defined Energy Efficiency Practices contributes positively to organizational performance. The study sought to determine whether clear reporting lines in the organization improve accountability. According to Table 2, 36% of employees strongly agreed, 41% agreed, 15% were neutral, and 7% strongly disagreed. Furthermore, 35% of employees strongly agreed that the Energy Efficiency Practices supports effective communication among employees. 42% agreed, 15% were neutral, and 8% strongly disagreed, showing that most respondents believed communication is strengthened by the structure in place. The study went on to determine whether Energy Efficiency Practices allows quick decision-making. According to Table 2, the majority of respondents (27% strongly agreed, 43% agreed, 20% were neutral, and only 9% strongly disagreed).

Waste Management Systems

This instrument seeks to find out about the Waste Management Systems.

Table 3: Waste Management Systems

| Statement | Strongly Agree | Agree | Neutral | Strongly Disagree |
|----------------------------------------------------------------------------------------------------------------|----------------|-----------|-----------|-------------------|
| My organization promotes Waste Management Systems among teamwork. | 73(48%) | 62(40.8) | 11(7.2%) | 6(3.9%) |
| The values and beliefs of Waste Management Systems shared in my organization positively influence performance. | 55(36.2) | 61(40.1) | 16(10.5) | 20(13.2%) |
| Employees in my organization are open to waste management systems. | 66(43.3%) | 60(39.5) | 17(11.2%) | 9(5.9%) |
| The Waste Management Systems encourages employees to take initiative. | 55(36.2%) | 32(21.1%) | 26(17.1%) | 39(25.7%) |

Source: Field work 2025

According to the findings, 48% of respondents strongly agreed, 41% agreed, 7% were neutral, and 4% strongly disagreed that their organization promotes Waste Management Systems among teamwork. The results indicate 36% of the participants strongly agreed, 40% agreed, 11% were neutral, and 13% strongly disagreed that the values and beliefs of Waste Management Systems shared in their

organization positively influence performance. Table 3 shows that 43% of the respondents strongly agreed, 40% agreed, 11% were neutral, and 6% strongly disagreed that employees in their organization are open to Waste Management Systems. From the study, 36% of the participants strongly agreed, 21% agreed, 17% were neutral, and 26% strongly disagreed that the Waste Management Systems encourages employees to take initiative.

Organizational Sustainability

This instrument seeks to find out about Organizational Sustainability.

Table 3: Organizational Sustainability

| Statement | Strongly Agree | Agree | Neutral | Strongly Disagree |
|------------------------------------------------------------------------|----------------|-----------|-----------|-------------------|
| My organization has experienced consistent growth in recent years. | 73(48%) | 62(40.8%) | 11(7.2%) | 6(3.9%) |
| Employees' productivity in my organization has significantly improved. | 20(13.2%) | 16(10.5%) | 61(40%) | 55(36.2%) |
| My organization adapts quickly to market or environmental changes. | 9(5.9%) | 17(11.2%) | 66(43.3%) | 60(39.5%) |
| Customer satisfaction in my organization has improved over time. | 55(36.2%) | 32(21.1%) | 26(17.1%) | 39(25.7%) |

Source: Field work 2025

According to the findings, 48% of respondents strongly agreed, 41% agreed, 7% were neutral, and 4% strongly disagreed that their organization has experienced consistent growth in recent years. The results indicate that 13% of the participants strongly agreed, 11% agreed, 40% were neutral, and 36% strongly disagreed that employees' productivity in their organization has significantly improved. Table 3 shows that 6% of the respondents strongly agreed, 11% agreed, 43% were neutral, and 40% strongly disagreed that their organization adapts quickly to market or environmental changes. From the study, 36% of the participants strongly agreed, 21% agreed, 17% were neutral, and 26% strongly disagreed that customer satisfaction in their organization has improved over time.

4.2 Hypothesis Testing

Decision Rule: Accept the null hypothesis if the probability value >0.05 ; otherwise, accept the alternative hypothesis.

4.2.1 Hypothesis One

- iii. H_{01} : Energy Efficiency Practices have no significant effect on organizational sustainability in South East Nigeria.

4.2.2 Hypothesis Two

i. Ho1: Waste Management Systems has no significant effect on organizational sustainability in South East Nigeria.

Table 4: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .494 ^a | .722 | .689 | 3.08124 |

a. Predictors: (Constant), Energy Efficiency Practices; Waste Management Systems

4.3.2 Model Testing and Interpretation

The model summary above explains the percentage of the dependent variable (organizational sustainability) that can be determined by the independent variables (Energy Efficiency Practices and Waste Management Systems). According to this Table, the independent variables account for 72.2% (R Square, 0.722) of the variation in organizational performance, while the remaining 27.8% can be explained by other factors outside the scope of this model. This implies that Energy Efficiency Practices and Waste Management Systems have a direct influence on organizational sustainability. The Pearson correlation coefficient (R) result also showed a positive value of 0.494, which lends credence to the fact that the predictor variables have a direct relationship with the response variable.

Table 5: ANOVA table

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1 | Regression | 129.014 | 1 | 129.014 | 4.860 | .001 ^a |
| | Residual | 3982.249 | 151 | 26.548 | | |
| | Total | 4111.263 | 152 | | | |

a. Dependent Variable: Organizational sustainability.

b. Predictors: (Constant): Energy Efficiency Practices; Waste Management Systems.

The extent to which the independent variables (Energy Efficiency Practices and Waste Management Systems) relate to the dependent variable (organizational sustainability) was tested, and the result showed that the p-value obtained (0.001) was lower than the 5% level of significance specified in SPSS software for this analysis. Therefore, according to the decision rule, the alternative hypothesis is accepted, while the null hypothesis is rejected. This implies that Energy Efficiency Practices and Waste Management Systems have a significant influence on organizational sustainability.

Table 6: Coefficients

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|---------------------------|---|------|
| | | | | |

| | | B | Std. Error | Beta | | |
|---|-------------------------|--------|------------|-------|-------|------|
| 1 | (Constant) | 18.968 | 2.415 | | 7.855 | .000 |
| | Energy Effici Practices | 0.318 | 0.104 | 0.177 | 3.057 | .019 |
| | Waste Mgt Systems | 0.098 | 0.061 | 0.005 | 1.606 | .024 |

a. Dependent Variable: Organizational sustainability

Simple linear regression analysis was also conducted to determine if the result established by the ANOVA statistic is similar to that of the regression coefficient. The result shows that the P-value obtained (i.e., 0.019) for the regression coefficient of Energy Efficiency Practices was lower than the alpha level of significance of 5% specified in SPSS for this analysis. Therefore, it can be inferred from this result that the ANOVA statistic is similar to that of the regression coefficient. Thus, the Alternate Hypothesis will be accepted while the Null Hypothesis will be rejected, which means that Energy Efficiency Practices have a significant positive effect on organizational sustainability. Also, the result shows that the P-value obtained (i.e., 0.024) for the regression coefficient of Waste Management Systems was also lower than the alpha level of significance of 5% specified in SPSS for this analysis. Therefore, it can be inferred from this result that the ANOVA statistic is consistent with that of the regression coefficient. Thus, the Alternate Hypothesis will be accepted while the Null Hypothesis will be rejected, which means that Waste Management Systems equally has a significant positive effect on organizational sustainability.

4.0 Discussion of Results

The result of this study indicates that Energy Efficiency Practices have a significant positive effect on organizational sustainability. This was confirmed by the result of the statistical analysis, which shows that the P-value obtained (0.019) was lower than the significance value of 5% specified in SPSS for this analysis. Similarly, the result of this study indicates that Waste Management Systems also has a significant positive effect on organizational sustainability. This was confirmed by the result of the statistical analysis, which shows that the P-value obtained (0.024) was lower than the significance value of 5% specified in SPSS for this analysis. Therefore, both Energy Efficiency Practices and Waste Management Systems are significant determinants of organizational sustainability, implying that improving the internal structure and culture of an organization will enhance its overall performance and sustainability.

5. Conclusion

In conclusion, green management innovation plays a pivotal role in enhancing organizational sustainability in South East Nigeria. The findings highlight that Energy Efficiency Practices significantly contribute to sustainable operations, enabling organizations to reduce costs, minimize

environmental impact, and improve their overall efficiency. By prioritizing energy conservation and implementing innovative energy-efficient technologies, organizations not only optimize their resource use but also strengthen their reputation as environmentally responsible entities.

Additionally, the establishment of effective Waste Management Systems emerges as another critical factor positively influencing organizational sustainability. These systems mitigate the risks associated with waste generation by promoting recycling, reducing landfill use, and fostering a circular economy. Organizations that adopt robust waste management practices demonstrate a commitment to environmental stewardship and compliance with regulatory requirements, further enhancing their long-term viability and competitiveness.

The combined effect of these green management innovations illustrates that organizations operating in South East Nigeria can achieve significant sustainability gains by integrating environmentally friendly practices into their operations. This not only contributes to their profitability and operational efficiency but also aligns with broader global efforts to combat climate change and promote sustainable development. Therefore, it is essential for organizations in the region to actively pursue and invest in green management innovations, thereby securing a sustainable future that benefits both their business and the environment. The study concluded that green management innovation has a significant positive effect on organizational sustainability in South East Nigeria.

Recommendations

To enhance organizational sustainability in South East Nigeria through green management innovation, the following recommendations are proposed:

- i. Organizations should invest in energy-efficient technologies and processes, such as the use of LED lighting, energy-efficient appliances, and renewable energy sources. Conducting energy audits can help identify areas for improvement and track savings.
- ii. Organizations must develop and adopt comprehensive waste management systems that prioritize waste reduction, recycling, and responsible disposal. Collaborating with local waste management authorities can help streamline processes and improve community engagement.

References

- Abila, B. & Kantola, J. (2017). Proposed solutions in municipal solid-waste management. *International Journal of Environment and Waste Management*, 2017 Vol. 19 No.4, pp.297 - 317
- Brown, G. Z., & DeKay, M. (2014). *Sun, Wind, and Light: Architectural Design Strategies*
- Capehart, B. L., Turner, W. C., & Kennedy, W. J. (2020). *Guide to Energy Management*.

American Research Journal of Economics, Finance and Management

Volume 13 Issue 3, July-September 2025

ISSN: 2836-9416

Impact Factor: 6.41

Journal Homepage: <https://americaserial.com/Journals/index.php/ARJEFM>

Email: contact@americaserial.com

Official Journal of America Serial Publication

- Demirbas, A. (2021). Waste management, waste resource facilities, and waste conversion processes. *Energy Conversion & Management*, 52(2), 1280-1287
- Elkington, J. (2015). Enter the triple bottom line. In *The triple bottom line* (pp. 23–38). Routledge.
- Engert, S., Rauter, R., & Baumgartner, R. J. (2016). Exploring the integration of corporate sustainability into strategic management: A literature review. *Journal of Cleaner Production*, 112, 2833–2850.
- Epstein, M. J., & Buhovac, A. R. (2014). *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts*, European Commission, Energy Efficiency Directive
- Hunt, S. D. (2016). Sustainable marketing, equity, and economic growth: A resource-advantage, economic freedom approach. *Journal of the Academy of Marketing Science*, 39(1), 7–20.
- Igbinomwanhia, D. I. (2011). Status of waste management. *Integrated Waste Management*, 2, 11-34.
- Ilvitskaya, S., and Prihodko, V. (2018). Innovative technologies in the field of topography, land management, territorial planning, construction, and Architecture. *IOP Conf. Ser. Mater. Sci. Eng.* 365:022030.
- International Energy Agency (IEA). (2020). *Energy Efficiency 2020*. Paris: IEA.
- Khan, M. A. S., Ali, M., Usman, M., Saleem, S., and Jianguo, D. (2019). Interrelationships between ethical leadership, green psychological climate, and organizational environmental citizenship behavior: the moderating role of Gender. *Front. Psychol.* 10:1977.
- Liorca, M., & Jamasb, T. (2017). Energy efficiency and rebound effect in European road freight transport. *Transportation Research Part A: Policy and Practice*, 101, 98–110.
- Lok, J. (2019). Why (and how) institutional theory can be critical: Addressing the challenge to institutional theory's critical turn. *Journal of Management Inquiry*, 28(3), 335–349.
- Lozano, R. (2018). Proposing a definition and a framework of organizational sustainability: A review of efforts and a survey of approaches to change. *Sustainability*, 10, 1157.
- OECD (2020). *Green Innovation and Industrial Policy*.

American Research Journal of Economics, Finance and Management

Volume 13 Issue 3, July-September 2025

ISSN: 2836-9416

Impact Factor: 6.41

Journal Homepage: <https://americaserial.com/Journals/index.php/ARJEFM>

Email: contact@americaserial.com

Official Journal of America Serial Publication

Okoli, C. N., Egobueze, A. And Briggs, D.A. (2020) Waste Management Policy Implementation in Nigeria: A Study of Rivers State Waste Management Agency, *International Journal of Advanced Research Int. J. Adv. Res.* 8(02), 755-765.

Olayiwola O. P., Itohan, I., and Abiodun, A. S. (2023). Waste Management Administration and Environmental Sustainability in Nigeria, *International Journal of Novel Research in Interdisciplinary Studies* Vol. 10, Issue 4, pp 28-41).

Rodríguez-Olalla A. and Avilés-Palacios C. (2017). Integrating Sustainability in Organizations: An Activity-Based Sustainability Model.

Shehabi, A., Smith, S.J., Horner, N., Azevedo, I., Brown, R., Koomey, J., Masanet, E., Sartor, D., Herrlin, M., Lintner, W. 2016. United States Data Center Energy Usage Report. Lawrence Berkeley National Laboratory, Berkeley, California. LBNL-1005775

Song, W., & Yu, H. (2018). Green innovation strategy and green innovation: The roles of green creativity and green organizational identity. *Corporate Social Responsibility and Environmental Management*. MDPI, Sustainability 9(6), 1072

Sridhar, M. K. C., Oluborode, J. A., and Uwadiogwu, Z. (2017). Waste Management Policy and Implementation in Nigeria. *National Journal of Advanced Research*. 3(3) Pp. 23-35.

Tang, M., Walsh, G., Lerner, D., Fitzg, M. A., and Li, Q. (2018). Green innovation, Managerial concern and firm performance: An empirical study. *Bus. Strategy Environ.* 27, 39–51

Tang, Y., Walsh, G., & Lerner, D. (2022). Green Innovation and Sustainable Development: A Review of the Evidence and Future Research Agenda. *Journal of Cleaner Production*.

United States Environmental Protection Agency (2022) Sustainable Consumption and Production Guidelines U.S. Department of Energy (DOE), Energy Efficiency and Renewable Energy Office.

Varsei, M., Soosay, C., Fahimnia, B., & Sarkis, J. (2014). Framing the sustainability performance of supply chains with multidimensional indicators. *Supply Chain Management: An International Journal*, 19(3), 242–257.

Venkateshwarlu, B (2020). An Empirical Study on Waste Management and Its Impact on Environment, Health, Economic, and Social Aspects. *Mukt Shabd Journal*, 9(10), 491

American Research Journal of Economics, Finance and Management

Volume 13 Issue 3, July-September 2025

ISSN: 2836-9416

Impact Factor: 6.41

Journal Homepage: <https://americaserial.com/Journals/index.php/ARJEFM>

Email: contact@americaserial.com

Official Journal of America Serial Publication

Weng, H. H., Chen, J. S., & Chen, P. C. (2015). Effect of green innovation on environmental and corporate performance: A stakeholder perspective. *Sustainability*.

Xie, X., Huo, J., & Zou, H. (2019). Green Process Innovation, Green Product Innovation, and Corporate Financial Performance: A Content Analysis Method. *Journal of Business Research*.

Yusliza, M. Y., et al. (2020). Top Management Commitment and Green Human Resource Management: A Moderated Mediation Model of Green Knowledge Sharing and Green Organizational Culture. *Sustainability*.

Ziolkowska, J., & Ziolkowski, B. (2015). Energy efficiency in the transport sector in the EU-27: A dynamic dematerialization analysis. *Energy Economics*, 51, 21–30.