Green Human Resource Management Practices in Enhancing Sustainability in Manufacturing Firms: Evidence from Imo State, Nigeria

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Abstract:

This study examined how Green Human Resource Management (GHRM) practices enhance sustainability outcomes in manufacturing firms in Imo State, Nigeria. Grounded in the Resource-Based View and the Theory of Planned Behavior, the study employed a quantitative, cross-sectional design, utilizing structured questionnaires to gather responses from employees of manufacturing firms. The study population consists of 501 employees across various subsectors in the Anambra, Enugu, and Abia industrial corridors. A sample size of 141 is calculated using the Taro Yamane formula with a 5% error margin. Descriptive statistics (means, standard deviations, frequency distributions) are used to summarize GHRM practice adoption (green recruitment/ selection, green training & involvement, green performance management & rewards) and sustainability outcomes (environmental, economic, and social). Pearson Product–Moment correlation coefficients test the hypothesized relationships between GHRM practices and sustainability performance. The paper contributes context-specific evidence from Anambra, one of Nigeria's most industrialized states, while extending contemporary GHRM practice that links HR levers to measurable sustainability outcomes. Policy and managerial implications are drawn for scaling GHRM in Nigeria's manufacturing sector. Recent national and scholarly evidence shows the motivation and significance.

Keywords: Green HRM, sustainability, Green Recruitment, Selection, Rewards, Compensation, Development

1. Introduction

Manufacturing firms are under pressure to address global environmental concerns and adopt and implement sustainable practices. In manufacturing firms in Imo State, Nigeria, Green Human Resource Management (GHRM) practices integrate environmental considerationsinto the traditional HR value chain—recruitment, employee engagement, performance management, training, and rewards — to encourage eco-friendly behavior and capabilities that drive organizational sustainability. Evidence from Miah, M., Szabó-Szentgróti, G., & Walter, V. (2024) suggests that GHRM is increasingly positioned as a strategic control for environmental and social performance in advanced economies and emerging markets. When these firms value and adopt environmental responsibility, they will attract and retain talent, and inspire their employees to align their individual goals with the organisation's sustainability objectives (Norton, Parker, and Mc Bain, 2021).

As one of the states in the Southeast part of Nigeria, Imo State is a suitable place for investigating GHRM due to its status as one of the manufacturing clusters, just like the neighboring state Anambra State (notably in Nekkede), and compressed commercial hubs (Owerri, Orlu) which host different firms ranging from metal fabrication and auto spare parts to consumer goods. These firms embrace the local value chain and employment, which aligns their HR practices with the sustainability agenda (Stears Business, 2022).

In Imo state, firms play a vital role in the local economic development, job creation, local production, and innovation. These firms are recognized for producing a diverse range of products, including textiles, food processing, automotive parts, and machinery. They have shown consistency amid economic challenges, with some firms adopting modern technologies and practices to ensure efficiency and remain competitive (Obi, 2021). The firm's growth in Imo State can be attributed to the need for sustainability. As environmental concerns become increasingly pressing, manufacturing firms must reduce the ecological footprint of their operations. With this shift, firms have explored environmentally friendly production mechanisms that comply with regulations and appeal to eco-conscious consumers (Wang, Yu, and Hu, 2021).

Previous researchers have indicated that green human resource management practices, such as green recruitment, research & development, training, and performance appraisal, contribute immensely to enhancing employee performance within the context of manufacturing firms in Nigeria. Firms that adopt green initiatives report higher employee performance, commitment, and job satisfaction, as employees feel empowered to add to environmental goals (Meyer, Allen, and Smith, 2023). Beyond the state level, recent national data spotlight a

manufacturing sector gradually regaining momentum, underscoring the need to embed sustainability to bolster resilience (National Bureau of Statistics. (2025).
This study, therefore, examines the extent to which specific GHRM practices (green recruitment, green training & involvement, green performance management & rewards) are associated with sustainability outcomes among manufacturing firms in Imo State, Nigeria.

Statement of the Problem

Regardless of the growth of firms in Imo State, environmental challenges (waste handling, energy crises, and emissions) and social sustainability (employee health and safety, community impacts) persist. Many firms still take sustainability as a compliance add-on rather than a capability rooted in an organisational system. Some firms lack clear strategies for integrating environmental issues into their human resource policies. This lack of structure can create a gap between what the organisation aims to achieve and the employee's behaviour.
Evidence from previous studies suggests that HR systems can shape employees' green knowledge, motivation, and opportunities; however, there is still a gap in knowledge on how GHRM practices relate to firms' sustainability in Imo State manufacturing firms. Existing studies in Nigeria focused on other states or sectors, or provided wide range reviews without providing practice-ready guidance for Imo's SMEs.
In some organisations, management lacks strong communication and visible support regarding green initiatives, and employees may feel unmotivated or confused about their role in these efforts. Additionally, a lack of structure can create a gap between the organisation's objectives and the attitude of employees. The training programs offered by these firms regularly fail to equip employees with the necessary skills and knowledge for effective engagement in environmentally friendly practices. Thus, employees may not have the necessary tools to contribute to green initiatives, which can limit their performance and the success of green human resource management.
There is also difficulty for firms to track their progress and make improvements because they lack a proper evaluation and feedback mechanism to measure if their human resources management practices are working effectively.
All the above challenges highlight the need for a better understanding of how to implement GHRM successfully in SMEs in Imo State, Nigeria. It is essential to address these issues to enhance organisational performance and support broader environmental goals, ensuring the continuous success of firms in the region.

Objectives of the Study

The primary objective of this study is to investigate the role of green human resource management in promoting sustainability in selected firms in Imo State. The specific objectives are outlined below, aligning with the research questions and hypotheses.

1. To determine the relationship between green recruitment and selection and sustainability outcomes in manufacturing firms in Imo State.
2. To examine the relationship between green training and employee involvement, and firms' sustainability outcomes in Imo State.
3. To identify the relationship between green performance management and rewards and sustainability outcomes.

Research Questions

1. What is the relationship between green recruitment and selection and sustainability outcomes in manufacturing firms in Imo State?
2. What is the relationship between green training & employee involvement and sustainability outcomes in manufacturing firms in Imo?
3. To what level can green performance management & rewards affect the sustainability outcomes in Imo state?

Research Hypotheses

$H0_1$: Green recruitment and selection have no significant effect on the sustainability outcomes in manufacturing firms in Imo

$H0_2$: Green training & employee involvement does not have any significant relationship with the sustainability outcome in

$H0_3$: There is no significant relationship between green performance management & rewards and sustainability outcomes in manufacturing firms in Anambra State.

2. Review of Related Literature

Green Human Resource Management

Green Human Resource Management (GHRM) refers to the integration of environmental sustainability into human resource management practices. It incorporates various strategies aimed at promoting sustainable practices within organisations while engaging employees in environmental initiatives (Jabbour & Santos, 2020). Green Human resource management seeks to support organisational objectives with environmental goals, promoting a culture that values ecological sustainability and traditional business performance. Recruitment and selection arekey components of green human resource management, which involves hiring competent individuals who are

environmentally conscious and capable of making meaningful contributions towards sustainability goals (Ren Tang & Zhang, 2021). When organisations adopt green human resources management, they attract candidates who possess green competencies, thereby enhancing the workforce's ability to implement sustainable practices. Firms build a team that actively engages in and promotes suitable practices when they prioritize environmental awareness in the recruitment process (Jabbour & Santos, 2021).

Green Recruitment & Selection

Green recruitment and selection (GRS) sets in environmental measures across the hiring channel (employer branding, job analysis/specifications, assessment) and onboarding to attract applicants with pro-environmental principles and competencies. Systematic reviews in the field of GHRM confirm GR&S as a core practice area and highlight its hypothesized pathways, including value-person-organisation (V-P-O) fit, which is supported by green branding theory, as well as capacity building for environmental practices. Empirical reviews also call for clear operationalization of green competencies and substantial evidence on grassroots performance effects(Ana C.C., Cristina G., Diego C., Rafael G.B., Gilberto S., Luis C.F., 2025); (Masum Miah, Gábor Szabó-Szentgróti, Virág Walter, 2024)

Current studies on manufacturing firms report that GR&S significantly predict corporate sustainability outcomes (environmental compliance, resource efficiency, and eco-innovation) through green culture and employee green behaviors as mediators. For example, evidence from manufacturing firms indicates that GR&S improves sustainability when firms unambiguously specify its eco-criteria in advertisements, use scenario-based assessment, and prioritize candidates with previous green project experience (Obie, Enanalor, Fossung, Michael, & Ongo, Nkoa). (2025).

In the African context, reviews advised that institutional challenges (weak enforcement, skills gaps) can have a dull effect unless GR&S is supplemented by training and system support, highlighting the need for locally adapted job analysis and competencies that replicate regulatory and infrastructural realities (Jinghan Wang, Lijun Tang, Jinhua Zhang, Bong Keun Choi, and Chris Phillips, 2025)

Green Training & Employee Involvement

Green Training and Involvement (GT&I) targets employees' capability, motivation, and opportunities to act green through structured learning, a Kaizen-style suggestion system, green teams, and participation in problem-solving. Studies show that green training enhances environmental performance by improving

individual performance and fostering green competencies. This participatory method transforms capacity into a daily routine, but also introduces green pressure if poorly designed (Ahmed, Sajjad, & Mumtaz; Seema & Qureshi, Naveed, & Mansoor; Qasim & Jalali; Khalid Malokani, Dodo Khan, 2025).
Some information suggests that GT&I predicts results such as material reduction, energy use, higher acceptance, and greener process innovation through the intervention of green culture and employee green behaviors. In manufacturing firms, interventions that bring together technical modules (e.g., waste segregation, TPM energy modules) with low levels of hierarchy involvement (green circles, suggestion rewards) are likely to perform better than training-only approaches. In a global setting, GT&I must address basic skills shortages and provide practical, specific content to be effective (Ali, Murad, & Shujahat; Muhammad & Fatima, Noureen & Jabbour, Ana & Vo-Thanh, Tan & Salam, Mohammad, & Latan, Hengky). (2024).

Green Training and Development

Hassan and Shafique (2021) refer to green training and development as a systematic approach to enhance employees' knowledge, skills, and capabilities related to environmental sustainability and practice. This process is vital for promoting an organisational culture that values and prioritizes sustainability initiatives. Green training encompasses practical knowledge about environmental issues and behavioral changes, empowering employees to adopt more sustainable practices in their professional roles (Hassan & Shafique, 2021). Creating awareness about the importance of environmental stewardship among employees is a key objective of green training and development. Operational training programs can inform employees about the environmental impact of their actions, highlighting how individual behaviors contribute to broader organisational sustainability objectives (Jabbour et al, 2018). Furthermore, green training and development also focus on improving employees' practical skills related to sustainability, which includes providing training to employees on sustainable technologies, processes, and practices that the organisation embraces to reduce its environmental footprint (Zhou, Chen, and Zhang, 2022).
Green training and development, in addition to formal training programs, may include mentoring, workshops, and collaboration opportunities that encourage employees to share best practices and learn from one another (Saeed, Iqbal, and Khan). These collaborations can help employees feel supportive and empowered to contribute their ideas and experiences related to sustainability.

Supporting collaboration and knowledge sharing among employees leads to a more organised understanding of sustainability practices across the organisation, further implanting green values into the organisational culture.

Green Performance Management & Rewards

Green Performance Management and Rewards (GPM&R) incorporates environmental key performance indicators into appraisal, feedback, and incentive systems, monitoring, aligning goal-setting, and compensation with sustainability targets. Empirical studies refer to GPM&R as a tool that triggers green behavior, which is learned through training, reinforces norms, and sustains routines. GPM&R improves sustainability performance through green culture and employee behaviors, while being conscious against narrow, short-term incentive designs that flood out intrinsic motivation (Ali, M., Muhammad, S., Noureen, F., Jabbour, A., Vo-Thanh, T., Mohammad, S., & Latan, H.,.2024)

Practical design features of GPM&R include: multi-level KPIs, a mix of financial rewards, integration with EMS/ISO 14001 scorecards, and transparent feedback loops. There is also a positive effect when green goals are specific.

Green Compensation and Rewards

Strategies that organisations use to align employee incentives with environmentally sustainable practices and objectives are referred to as Green compensation and reward (Ibrahim, Omar, and Rahman, 2023). Sustainability initiatives can be enhanced by providing financial rewards for eco-friendly behaviors, such as bonuses tied to energy savings or waste reduction efforts. This method motivates employees to engage in sustainable practices and rekindles the organisation's commitment to environmental stewardship (Moussa, Bukhari, and Shaik, 2020). Additionally, non-monetary recognition, such as awards, can encourage employees to adopt environmentally friendly behaviors. When an organisation acknowledges individual and team contributions publicly, it improves a culture of recognition and rekindles the significance of environmental responsibility(Matzler, Tatzel, and Füller, 2020).

Any organisation that invests in employee development related to sustainability is likely to promote a more engaged and environmentally conscious workforce, which contributes positively to overall organisational performance (Okwu, Olorunfemi, and Nwabueze, 2021). Additionally, green compensation and rewards incentivize employees and play a crucial role in shaping an organizational culture that prioritizes sustainability (Pérez-López, Aranda, and Adroher, 2022).

Theoretical Framework

The work was grounded in the Theory of Planned Behaviour, proposed by Ajzen (1991). It is a widely applied psychological framework for understanding and predicting human behavior in specific contexts. The central principle of TPB is that behavioral intention is the immediate predictor of actual behavior, and three core constructs determine this intention:

1. Attitude toward the behavior: This refers to the individual's positive or negative evaluation of performing the behavior. For instance, when employees believe that adopting environmentally friendly practices will benefit the organisation, society, and themselves, they will develop a positive attitude towards engaging in green behaviours.
2. Subjective norms: this implies social pressure from important people (e.g., peers, supervisors, organisational culture) to perform or not perform the behavior. In a workplace setting, if supervisors, colleagues, and the entire organisation emphasize sustainability, all employees will feel social pressure to act in line with green expectations.
3. Perceived behavioral control (PBC): Thisrefers to the ease or difficulty of performing the behavior, which reflects past experiences as well as predicted obstacles. It also suggests that individuals feel confident and capable of engaging in the desired behavior.

Behavioral Intention and Behavior

TPB, behavioral intention emanates from the combined influence of attitude, subjective norms, and perceived behavioral control. When one has strong intentions, it usually leads to a higher likelihood of performing the behavior, especially when PBC is high (meaning that individuals feel they have the skills and resources to act).

Application of the theory to Green HRM

The theory of planned behavior has been widely used to explain environmentally responsible behavior in organizations. In the context of Green Human Resource Management (GHRM):

Green recruitment& selection can nurture attitudes and perceived norms by signaling the organisation's environmental values from the outset, attracting candidates who already hold pro-environmental attitudes.

Green training and employee involvement enhance employees' perceived behavioral control by providing the knowledge, skills, and opportunities necessary to implement sustainable practices effectively.

Green performance management & Rewards reinforce subjective norms (since sustainable behavior is appraised and rewarded) and maintain positive attitudes toward engaging in green practices by linking them to recognition and career advancement.

Thus, the practices of GHRM by an organisation can be seen as a mechanism that activates the three antecedents of intention in TPB, thereby increasing the likelihood of actual green behavior at work, which collectively enhance sustainability outcomes.

Empirical Review

Miah, M., Szabó-Szentgróti, G., & Walter, V. (2024) examined the trend in Green HRM research related to sustainability over the past decade to determine how green human resource management relates to sustainability, its background, and the level of implementation. After careful examination through the VOS viewer application, the results indicate that 'green human resources management' is a keyword that facilitates the identification of related research fields, such as environmental management and environmental sustainability.

Ahmed, S.& Mumtaz, S.& Qureshi, N.& Mansoor, Q.& Jalali, & Khalid Malokani, Dodo Khan. (2025). Studied the role of Green Training in enhancing environmental performance and its direct impact on employee performance (EP). Primary data was collected from 314 respondents across different sectors using a structured questionnaire that validated 5-point Likert scales. The findings support the use of green training and environmental performance strategies. The study also provides policymakers and HR practitioners with practical guidance on promoting sustainability through employee development

(Ali, M., Muhammad, S., Noureen, F., Jabbour, A., Vo-Thanh, T., & Mohammad, S., & Latan, H.,.2024), Argued that green organisational culture and prevailing employee pro-environmental behaviors are the dynamics through which GHRM practices nature green employee behaviour for sustainable corporate performance. The study collected data from 242 ISO-14001-certified green firms in Saudi Arabia. The hypotheses were tested using structural equation modelling through LISREL 12 software. The findings support the assertion that GHRM practices, both directly and indirectly, influence employee green behavior and contribute to sustainable performance.

Kuria and Mose (2023) examined the effect of green human resource management practices on organisational effectiveness in Kenya. Ten universities in Kenya were selected, which have approximately 400 employees from the HR unit, deans of faculties, heads of departments, schools, and senior administrative staff. Purposive sampling was employed, and a sample size of 120respondents was selected from the universities. Data was gathered through a semi-structured questionnaire and presented using tables, charts, and graphs. The findings indicated that green recruitment and selection, green HR performance management, green training and development, and green pay and reward recorded a positive relationship with organisational effectiveness of the selected universities in Kenya.

3. Methodology

Research Design

This study employed a descriptive survey research design, which is considered appropriate for this study, as it facilitates the collection of data from respondents through the use of a structured questionnaire.

Area of the Study

The study area is Imo State, Nigeria. Imo State is one of the states in the southeast geo-political zone in Nigeria. It encompasses several local government areas, with a major city being Owerri, including Orlu, Mgbidi, and Ohaji.

Population of the Study

The study population consisted of 501 staff members from the selected manufacturing firms in Imo State. The selected firms under study are: Nsu Tiles Industry, Brewery Plant, and Hardel & Enic Group. The study selected firms from each major city in Imo State. Below are the three selected firms, their geographical location, and staff strength:

Table 3.1:Selectedfirms, address, business model, and staff strength

S/N	Manufacturing firms	Address	Business Model	Staff Strength
1.	Nsu Tiles Industry	Mbaise Road, Imo State	Known for the production of tiles and textiles.	77
2.	Brewery plant	Anukwuru Street, Imo state	Brewery	244
3.	Hardel & Enic Group	Old Market Road, Imo state	A major brewery firm known for producing beverages.	180
				501

Source: Personnel Officers' Records, 2024.

Sample size determination and sampling technique

The study employed Krejcie and Morgan's (1970) formula to determine the sample size.The workings are shown below:

$$s = \frac{x^2 NP(1-p)}{d^2(N-1) + x^2 P(1-p)}$$

Where

s = Sample size

x^2 = Table value of chi-square for 1 degree of freedom at 0.05% confidence level (3.84)

N = population size (501)

P = population proportion (assumed to be 0.5 since this would provide the maximum sample size)

d = Degree of accuracy expressed as a proportion (0.05)

$$s = \frac{3.86\ (501)(0.5)(1-0.5)}{(0.05)^2(501-1) + (3.84)\ (0.5)(1-0.5)}$$

$$s = \frac{480.95}{1.25 + 0.96}$$

$$s = \frac{480.95}{2.21}$$

s≅ 218Therefore, the sample size was 218.

Bowley's allocation formula wasused in determining the proportion of questionnaires to be allocated to the selected firms under study,and the workings are shown below:

$$nh = \frac{nNh}{N}$$

Where n = total sample size.

Nh = No. Of items in each stratum in the population.

N = population size.

Allocation of the Sample Size

Nsu Tiles Industry = 218 (77) / 501 = 34

Brewery = 218 (244) / 501 = 106

Hardel & Enic Group = 218 (180) / 501 = 78

The researchers used the entire sample size since the population is small. The study employed simple random sampling, which is considered suitable because it provides an equal opportunity for every member of the population to participate.

Source of Data

The primary source of data is the major source of data for the study. A structured questionnaire was employed, basically it involves a standardized set of questions, typically closed-ended, arranged in a specific order to elicit consistent information and comparable responses from respondents.

Instrument for Data Collection

The instrument for data collection was a well-structured questionnaire. The questionnaire was divided into two sections. Section A comprises the demographic information of the respondents, while Section B comprises the questions used to measure the variable. A five-point Likert scale of Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1) was employed.

Validity of the Instrument

The questionnaire for the study was presented to some researchers, who corrected and confirmed its appropriateness for the study. This was done to ensure that the questionnaire items effectively address the study's objectives.

Reliability of the Research Instrument

Cronbach's Alpha, as calculated using the Statistical Package for the Social Sciences, was employed to assess the reliability of the instrument. After testing the reliability of responses to the items in the test instrument using correlation analysis, a correlation coefficient of 0.911 was obtained, indicating that the instrument is highly reliable.

Method of Data Analysis

The socio-demographic characteristics of the respondents were presented in a tabular form based on frequency and percentages. Descriptive statistics were used to analyze the generated data, while the test of hypotheses was conducted using inferential statistics (Pearson Product-Moment Correlation Coefficient) at a 5% significance level.

Decision Rule:

Accept the Alternate hypothesis (Ha) if the calculatedP-value is less than 0.05 (P-value < 0.05); otherwise accept the Null hypothesis (H_o).

4. Data Presentation and Analysis

Presentation of Data

Table 4.1 Questionnaire Distribution Table

Questionnaire	Frequency	Percentage
Number of questionnaires distributed	218	100
Number of questionnaires collected.	183	84
Number of Questionnaires not retrieved.	35	16

Source: Field Survey, 2024.

Table 4.1 presents the total number of questionnaires distributed, the number retrieved, and the number analyzed for the study. From the table, a total of 218 copies of the questionnaire were distributed in accordance with the study's sample size; 183 copies were collected, representing 84% of the distributed copies, while 35 copies were not retrieved.

Table 4.2 Demographic Characteristics of Respondents

s/n	**Demographic Characteristics**		**Frequency**	**Percentage (%)**
1.	**Gender**	Male	75	41
		Female	108	59
		Total	**183**	**100**
2.	**Age Group**	20 – 29	48	26
		30 – 39	97	53
		40 – 49	30	16
		50 and above	8	4
		Total	**183**	**100**
3.	**Marital Status**	Married	78	43
		Single	101	55
		Others	4	2
		Total	**183**	**100**
4.	**Educational Qualification**	SSCE/OND	8	4
		BSc/HND	111	61
		MSc/PhD	8	4
		Others	56	31
		Total	**183**	**100**
5.	**Years of Service**	Below 1 year	17	9
		1 – 5 years	100	55
		6 – 10 years	29	16
		11 years and above	37	20
		Total	**183**	**100**

Source: Field Survey, 2024.

Table 4.2 above shows that75 (41%) of the respondents are male, while 108 (59%) are female. From the table, those who fall within the age group of 20 – 29 years are 48 (26%), those who fall within the age group of 30 – 39 years are97 (53%), those who fall within the age group of 40 – 49 years are 30 (16%), while those who fall within the age group of 51 years and above are 8 (4%).

According to the table, 43% of the 78 respondents, representing 34 individuals, are married, 55% (101 respondents) are single, while 2% (4 respondents) fall under other statuses. 2% of the respondents hold an SSCE/OND, 61% hold a BSc/HND, and 4% hold an MSC/PhD. Nineteen % of respondents, representing 17 individuals, have served for less than one year. One hundred respondents, representing 55%, have served for 2-5 years. 29 (16%) have been in service between 6-10 years, while 37 (20%) have been in service for 11 years or more.

4.2 Analysis of Research Question 1

Research Question One

What is the relationship between green recruitment and selection and sustainability outcomes in manufacturing firms in Imo State?

Table 4.3: Distribution of responses for Green Training and Development and Task Efficiency

S/N	Questionnaire Items	SA %	A %	N %	D %	SD %	Mean	Verdict
	Independent Variables (Green Human Resource Management)							
	Green Training and Development							
1.	The green training programs provided by my organization enhance employees' awareness of environmental sustainability.	51 (28%)	85 (46%)	38 (21%)	6 (3%)	3 (2%)	3.96	Accept
2.	Participation in green development initiatives improves employees' skills related to sustainable	103 (56%)	60 (33%)	11 (6%)	8 (4%)	1 (1%)	4.40	Accept

	practices in the workplace.							
3.	My organization's emphasis on green training contributes to higher employee performance in eco-friendly practices.	23 (13%)	51 (28%)	78 (43%)	17 (9%)	14 (8%)	3.28	Accept
	Dependent Variables (Sustainability outcome)							
	Employee Involvement							
4.	Green training programs have improved my ability to perform tasks efficiently while considering environmental impact.	43 (24%)	61 (33%)	47 (24%)	21 (12%)	11 (6%)	3.57	Accept
5.	Knowledge gained from green development initiatives enables me to carry out tasks with minimal waste and resource use.	50 (27%)	74 (40%)	20 (11%)	20 (11%)	19 (10%)	3.63	Accept
6.	The green skills I acquired have helped me complete tasks more efficiently within the organization.	53 (29%)	97 their views on (53%)	33 (18%)	-	-	4.11	Accept

Source: Field Survey, 2024.

Table 4.3presents the detailed responses of the respondents regarding green training and development, as well asemployee involvement. The object of analysis here is the mean, with a threshold of 3 and above. It indicates that any questionnaire item with a mean of 3 or above should be accepted; otherwise, it should be rejected. From the questionnaire item used to measure green training and development, the respondents were asked if the green training programs provided by their organisation enhanced employee awareness of environmental sustainability, with a mean of 3.96 indicating that they all agreed.

4.3 Test of Hypotheses

Hypothesis One

H_{o1}: Green recruitment and selection have no significant effect on the sustainability outcomes in manufacturing firms in Imo

Table 4.4 Correlation between Green recruitment & selection and Employee Efficiency

Correlations			
		Green recruitment and selection	Employee Efficiency
Green recruitment& selection	Pearson Correlation	1	.944**
	Sig. (2-tailed)		.000
	N	183	183
Employee Efficiency	Pearson Correlation	.944**	1
	Sig. (2-tailed)	.000	
	N	183	183
. Correlation is significant at the 0.01 level (2-tailed). **Source: Field Survey, 2024.			

Table 4.4 presents the results of a Pearson correlation analysis between green recruitment and selection and employee efficiency. The correlation coefficient is 0.944, which shows a strong positive relationship. This means that green recruitment and selection improve sustainability in an organisation. The significant value (Sig. 2-tailed) is 0.000, less than the conventional threshold of 0.05. It indicates that the correlation is statistically significant at the 0.01 level, meaning that the observed relationship is likely to have occurred by chance. "N" represents the number of respondents, which is 183. This suggests a highly significant relationship.

Decision:

Table 4.4 shows a significant relationship between green recruitment and selection and employee efficiency, with r = 0.944, n = 183, and a p-value of 0.000 (p <0.05). Therefore, we reject the null hypothesis and accept the alternative hypothesis, which concludes that green recruitment and selection have a significant relationship with sustainability and employee efficiency of selected manufacturing firms in Imo State.

4.4 Discussion of Findings

The study's objectives and hypotheses were tested using suitable analytical tools, and the findings have been analyzed. From the first objective which was to determine the nature of relationship that exist between green recruitment & selection and sustainability outcomes in manufacturing firms in Imo State and its accompanying hypothesis which stated that green recruitment and selection has no significant effect on the sustainability outcomes in manufacturing firms in Imo state, The showed that there is a significant positive relationship between green recruitment and selection and sustainability outcome in selected firms. It suggests that when the right employees are selected and equipped with sustainable skills, it plays an important role in enhancing performance and sustainability.

As employees become more proficient at incorporating green practices into their day-to-day responsibilities, they contribute to a reduction in resource waste and improve operational effectiveness. The finding also highlights that green recruitment and selection can yield dual benefits, strengthening environmental consciousness and boosting productivity, which aligns organisational and environmental sustainability goals.

The study also found a strong relationship between green training and employee involvement, as well as firms' sustainability outcomes. It emphasizes that adopting an environmentally conscious green training approach can increase employees' resilience and motivation in the face of organizational challenges. A green organisational training promotes principles such as resource stewardship, innovation in sustainable practices, and a commitment to reducing the ecological footprint, which encourages employees to embrace change as a pathway to improvement.

5. **Summary of Findings, Conclusion, and Recommendations**

Summary of findings

All the hypotheses tested showed assignificant relationship between green human resources management and the sustainability outcome of selected firms in Imo State, through the findings below;

1. Table 4.4 shows that green recruitment and selection has a significant relationship with employee efficiency of selected firms in Imo State, with r=0.944, n=183, and p-value of 0.000 (p-value<0.05). This indicates that when employee are selected appropriately, they tend to perform their task efficiently, which supports the firm's sustainability.

2. The findings also show that green training & employee involvement have a significant relationship with adaptability and firms' sustainability outcomes in Imo State, with r = 0.949, n = 183, and p-value of 0.000 (p-value < 0.05). This suggests that adopting a workplace training that prioritizes sustainability improves employees' flexibility and readiness to embrace new eco-friendly practices.

Conclusion

The study shows a significant positive relationship between green human resource management practices and a firm's sustainability in selected manufacturing firms in Imo State. The findings reveal that green recruitment and selection enhance organisational effectiveness and sustainability. Furthermore, green training and development are strongly associated with enhanced task efficiency, suggesting that eco-friendly skill-building initiatives contribute to employees performing their tasks more effectively. Additionally, green compensation and rewards show a significant relationship with goal achievement, indicating that eco-centered rewards encourage employees to align their goals with organizational objectives.

Together, these results highlight the importance of integrating green human resource practices to enhance employee performance and support sustainability within the manufacturing sector.

Recommendations: The following recommendations were made:

1. Manufacturing firms in Imo state should integrate green-focused recruitment and selection methods to enhance employee effectiveness. Hiring the right employees for the correct position boosts productivity and sustainability.
2. Firms should embrace green-focused training and development programs to increase task efficiency. When employees are equipped with skill-related training, firms can achieve high productivity and promote eco-friendly practices within their operations.
3. To enhance adaptability, firms should foster a green organizational culture by incorporating sustainable values into their everyday work processes. Encouraging environmentally conscious behaviors and practices will help employees adjust more effectively to changes and align with the firm's sustainable goals.

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