

# EFFECT OF GREEN HUMAN RESOURCE MANAGEMENT PRACTICES ON SUSTAINABILITY OF FOOD AND BEVERAGE COMPANIES IN NIGERIA

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## ABSTRACT

The study examined the effect of green human resource management practices on sustainability of quoted food and beverage companies in Nigeria. The study specifically determined the effect of green recruitment, green training, green rewards, green performance appraisal, and green employee involvement on sustainability of food and beverages companies in Nigeria. The study adopted a survey research design. The population of the study included three hundred and twenty-five (325) staff of fourteen (14) quoted food and beverages companies and a census sampling approach was used to consider the entire population. Primary data collected through self-administered questionnaire were analysed using descriptive statistics and multiple regression with the aid of the Statistical Package for Social Sciences (SPSS version 25). The study found a significant positive effect of green recruitment, green training, green rewards, green performance appraisal, and green employee's involvement on sustainability of food and beverages companies in Nigeria. The study concluded that, green human resource management practices have significantly enhanced the sustainability of food and beverages companies in Nigeria. The study recommended amongst others that, food and beverages companies in Nigeria should pay a serious attention in sustainable implementation of green recruitment practices which involves attracting and selecting candidates who are not only qualified but also have a strong commitment to green environmental practices. This practice ensures that the workforce is aligned with the company's green objectives from the onset.

**Keywords:** Food and Beverages, Green Human Resource Management, Sustainability, food and Beverage Companies, Nigeria

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## INTRODUCTION

Environmental challenges have become a major issue all over the world making it necessary for organizational operators as well as policy makers to investigate their mode of operations and address environmental problems brought about by the nature of their activities, the growing concern for environmental preservation and corporate social investment which has prompted organizations to adopt alternative avenues to meet these responsibilities and it is important to ascertain the level of green compliance by food and beverages manufacturing organizations in Nigeria, the significance of environmental challenges and their consequences on society, make green human resources management one of the most important themes in the business world and sustainability especially in the manufacturing food and beverages companies.

In the last decade, green human resource management (GHRM) has become increasingly important in organizations, fostering environmental awareness and enhancing competitive advantage. The implementation of GHRM practices, such as green recruitment, training, and rewards, helps organizations cultivate inventive environmental initiatives, ultimately leading to better sales, efficiency, and competitive gains (Alam *et al.*, 2021; Safwan *et al.*, 2023). By aligning human resource practices with sustainability goals, companies can create environmentally sensitive, resource-efficient, and socially responsible organizations (Wang and ZafirKhan, 2024).

GHRM practices, including green ethics management, health and safety, employee involvement, and performance appraisal, are vital strategic tools for achieving sustainability objectives (Bekhit *et al.*, 2023). Green training programs and rewards motivate employees to engage in environmentally friendly behaviors, while green performance appraisals help organizations set and monitor high environmental standards (Deepika and Karpagam, 2018; Al-Mamun, 2019; Rawashdeh, 2018). These practices not only enhance resource utilization and reduce environmental impacts but also contribute to the overall improvement of organizational performance and sustainability (Kuria and Mose, 2019).

Sustainability has become a vital part of any organisation, as it has a bearing on customer choices, employee support, and investment decisions. Organizational sustainability means having the leadership, talent, global insights and change strategies necessary to rise to the unique challenges facing organizations today, it is a company's strategy and actions to reduce adverse environmental and social impacts resulting from business operations in a particular market (Wangchuk, 2021). Sustainability is measured by assessing performance of social, environmental, and economic-metrics (Ritika and Moontu, 2018). The need to have a sustainable environment is a collective responsibility of all employees in organizations. Sustainability encourages helps organizations to reduce and mitigate wasteful spending while streamlining processes to be more efficient. This makes a business more attractive to customers seeking quality products and services and investors interested in positive long-term growth in a business (Gill *et al.*, 2021).

The food and beverage industry is critical to every economy in the world, and Nigeria is no exception. Food and beverages companies in Nigeria are now aligning their production and purchasing processes to incorporate the social, environmental and economic variables in order to reduce waste, prevent pollution, minimise the utilisation of natural resources, and carbon emission (Oluwajinmi and Longe, 2023). The food and beverage industry has the capacity to strongly influence all three pillars of corporate sustainability (economic, social and environmental), given its economic relevance, interdependence with the environment and impact on aspects relating to health and well-being (Nwibere, 2024). It is against this backdrop that the study examines the extent to which Green Human Resource Management Practices affect the sustainability of food and beverages companies in North Central, Nigeria.

## STATEMENT OF THE PROBLEM

Every organisation needs to strive for sustainability where the focus is to meet the needs of current economic realities, without compromising the ability to meet future needs and creating opportunities for enhanced performance, and this also applies to food and beverage companies. Food and beverage companies have unique roles to play in expanding economic opportunities, since their products are basic to human life and health. In current business environment, corporations try to find the ways of optimising the triple bottom line (TBL) concept of sustainability to create a positive impact of business organisation on the society, environment and the business community. The objective is to achieve sustainability by equally balancing economic, environmental and social criteria. Implementing green human resource management can ensure the success of an organization's environmental performance, which plays an essential role in developing organizational sustainability.

Sustainability has become a major concern for organizations, and it is becoming even more crucial for companies to deal with the gap between knowing and doing by implementing business practices that are sustainable. The quoted food and beverages companies in Nigeria that are required by law to engage in green environmental practices has no doubt implemented green human resource management practices as can be seen in their recruitment process that are devoid of paper work, training of staff on environmental and job matters that are basically conducted electronically, electronic appraisal of staff, rewards given in terms of recognition, finance and other forms that are paperless and other material things, and involving employees in decision making. Despite the growing recognition of green human resource management practices by food and beverage industry in Nigeria it is observed that there is reckless use of water, high level of carbon emission, pilling of waste without proper disposal strategy, fluctuation of cash flow, lack of cost reduction, non-efficient utilization of energy, non-socially responsible to community development and lack of workers safety which seems to be contradicted to the aim of green human resource management of achieving organizational sustainability. In situations where green human resource management practices do not align with sustaining the environment, the the sustainable goal is defeated. The researcher is therefore spurred to investigate the effect of Green Human Resource Management Practices on sustainability of food and beverages companies in North Central, Nigeria.

## OBJECTIVES OF THE STUDY

The broad objective of this study is to examine the effect of Green Human Resource Management Practices on sustainability of Food and Beverages companies in North Central, Nigeria. The specific objectives are to:

- i. determine the effect of green recruitment on sustainability of food and beverages companies in North Central, Nigeria.
- ii. ascertain the effect of green training on sustainability of food and beverages companies in North Central, Nigeria.
- iii. examine the effect of green reward on sustainability of food and beverages companies in North Central, Nigeria.
- iv. assess the effect of green performance appraisal on sustainability of food and beverages companies in North Central, Nigeria.

v. establish the effect of green employee involvement on sustainability of food and beverages companies in North Central, Nigeria.

## HYPOTHESES

The following hypotheses have been formulated for this study in a null form:

**H<sub>01</sub>**: Green recruitment has no significant effect on sustainability of food and beverages companies in Nigeria

**H<sub>02</sub>**: Green training has no significant effect on sustainability of food and beverages companies in North Central, Nigeria

**H<sub>03</sub>**: Green reward has no significant effect on sustainability of food and beverages companies in North Central, Nigeria

**H<sub>04</sub>**: Green performance appraisal has no significant effect on sustainability of food and beverages companies in North Central, Nigeria

**H<sub>05</sub>**: Green employee involvement has no significant effect on sustainability of food and beverages companies in North Central, Nigeria.

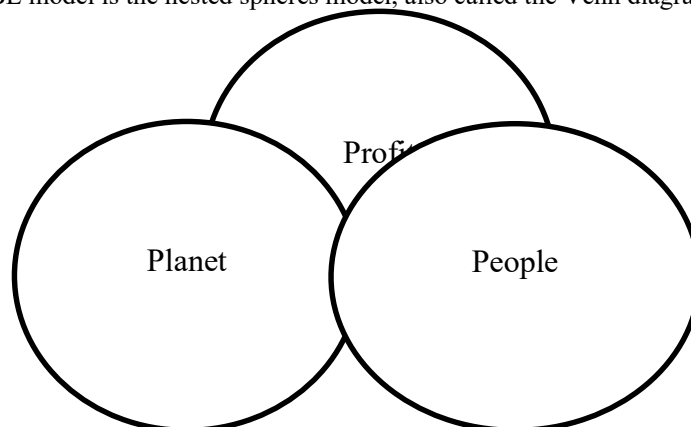
## LITERATURE REVIEW

### THEORETICAL FRAMEWORK

The following theories are reviewed as related to the variables used in this study, as well as related to the subject under study which are: Triple Bottom Line Theory, The Natural Steps Theory and Natural Resource-Based View (NRBV) theory. The study adopted the Natural Resource-based view (NRBV) theory.

### TRIPLE BOTTOM LINE THEORY

The Triple Bottom Line (TBL) theory was propounded by Elkington (1997) with assumption that; People (social), Planet (environmental) and Profit (economic), are mutually coexisted, and it has become an influential approach all over the world (Svensson and Wagner, 2015). This model set up the key to long-term strategies for companies making the transition to sustainability, based on three important or key pillars/dimensions of sustainable development: environmental quality, social equity, and economic benefits (Elkington, 1997). The most accepted model to describe sustainability and the TBL model is the nested spheres model, also called the Venn diagram explanation (Figure 1).



**Figure 1:** TBL Model Framework

**Source:** Adapted from Elkington (1998). *The Triple Bottom Line*. Routledge 23-38.

The Triple Bottom Line (TBL) model, as proposed by Elkington (1997), integrates social, environmental, and economic elements into financial objectives, advocating for a balanced approach to business sustainability. Scholars like Chapman and Eames (2007) and Hosseinian-Far and Jahankhani (2015) view TBL as a stronger sustainability model, emphasizing that business operations must align with broader economic, social, and environmental systems (Lawson and Beckmann, 2010). The model underscores the importance of profit, not only in terms of financial performance but also in its impact on society, stressing that companies must manage their strategic capabilities efficiently (Doyle, 2000; Akroush, 2012). Additionally, the people dimension focuses on corporate social responsibility (CSR), with studies indicating a positive relationship between CSR and consumer attitudes (Luo and Bhattacharya, 2006; Hallstedt *et al.*, 2010). The planet dimension highlights the need for organizations to minimize environmental impact, with scholars like Porritt (2007) and Bansal (2005) arguing that environmental concerns should take precedence, as all other aspects rely on the Earth's resources.

Despite its widespread acceptance, the TBL model presents challenges for organizations attempting to balance its three dimensions planet, people, and profit. Willard (2005) suggests that most companies have not fully integrated

sustainability into their corporate DNA, often stopping at the "Beyond Compliance" stage, which focuses on resource efficiency and cost reduction. Getzner (2011) critiques this as a "weak approach" to sustainability, advocating for a "strong approach" that emphasizes the interdependence of the economic, social, and environmental domains within a broader environmental system. This critique is particularly relevant to studies on sustainability in specific sectors, such as food and beverages in Nigeria, where green human resource management plays a crucial role. The sustainability of these companies cannot be achieved in isolation but must be considered within the social, environmental, and economic spheres, as outlined by the TBL model (Elkington, 1997).

## **THE NATURAL STEPS THEORY**

The Natural Steps Theory, developed by Swedish scientist Dr. Karl-Henrik Robèrt in the late 1980s, provides a systematic framework for sustainable development by addressing the root causes of environmental challenges. The theory is grounded in four key principles, known as the system conditions: reducing concentrations of substances extracted from the Earth's crust, reducing concentrations of substances produced by society, reducing physical degradation of nature, and ensuring that people are not subjected to conditions that undermine their ability to meet their needs. These principles, encapsulated as dematerialization, substitution, and humanization, guide organizations, businesses, and communities in developing sustainable strategies by envisioning a sustainable future and working backward to identify the steps needed to achieve that vision. The framework also emphasizes the importance of integrating sustainability into strategic planning and continuously assessing and improving practices to move progressively towards sustainability.

Critics of the Natural Steps Theory argue that it lacks flexibility, presenting developmental stages as rigid and sequential, which may not accurately reflect the dynamic nature of human growth. This rigidity may overlook individual variations and the unique trajectories that different people might experience, failing to account for differences in development due to genetic, biological, or neurological factors (Parry, 2018; Acosta-Prado et al., 2020; Amrutha & Geetha, 2020). Moreover, while the theory simplifies complex processes, critics contend that human development is influenced by a complex interplay of biological, cognitive, emotional, and social factors, which the theory may oversimplify. As a result, the reduction of development to a series of natural steps may not fully capture the multifaceted and interconnected nature of growth.

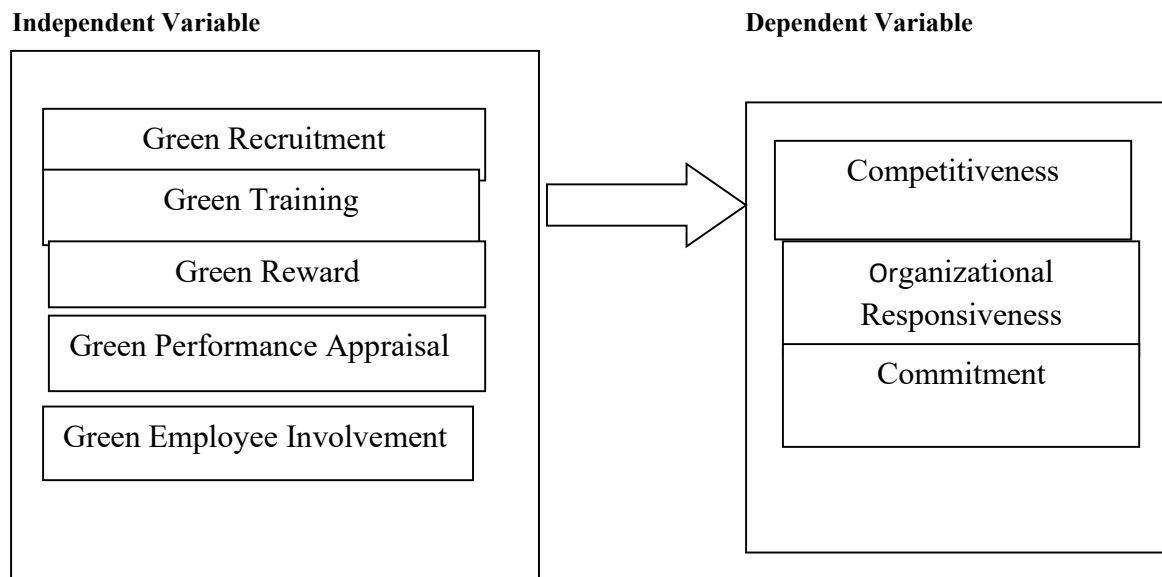
## **THE NATURAL RESOURCE-BASED VIEW (NRBV) THEORY**

The Natural Resource-Based View (NRBV) theory, developed by Hart (1995), extends the traditional Resource-Based View (RBV) by incorporating environmental considerations into strategic management. While the RBV focuses on leveraging a firm's valuable, rare, inimitable, and non-substitutable (VRIN) resources to achieve competitive advantage, the NRBV adds the dimension of sustainability, emphasizing that a company's long-term success is closely tied to its relationship with the natural environment. Pollution prevention focuses on minimizing emissions and waste to reduce costs and increase efficiency, while product stewardship addresses the environmental impacts of a company's value chain, aiming to lower product life-cycle costs and secure a competitive edge (Shen *et al.*, 2018).

The NRBV theory is particularly relevant to studies on green human resource management (HRM) practices and business sustainability. It provides a theoretical framework for understanding how firms can internalize environmental strategies, such as green recruitment, training, and compensation, to build competitive advantage and achieve sustainable business performance. By adopting green HRM practices, organizations can enhance their commitment to sustainability, improve customer responses, and foster innovation, ultimately leading to a stronger competitive position. The theory suggests that firms should focus on developing internal capabilities rather than merely responding to external competitive pressures, thereby integrating the natural resource-based vision into their overall business strategy to achieve long-term sustainability (Kumar, 2015).

## **CONCEPTUAL FRAMEWORK**

The concepts of green human resource management and organizational sustainability that constitute this study are carefully reviewed in this sub-section.



**Figure 1:** Conceptual Model of the Study  
**Source:** Researcher's Design (2024)

## CONCEPT OF GREEN HUMAN RESOURCE MANAGEMENT PRACTICES

Human Resource Management (HRM) represents the staffing, developing, and maintaining human capitals, recruitment, training, appraisal, compensation, job design, career development, employee motivation (Amin and Rubel, 2020), whereas 'Green' implies to environment saving and maintaining activities which group the regular work, practices, and atmosphere of the organizations (Shen *et al.*, 2018). The basic concept of Green HRM is the regular activities of HRM through some environment saving process. Lim *et al.* (2017) explained that it is an effective method or tool to cut down cost without losing out top talents and an effective way to boost organizational productivity. In a similar vein, Mehta and Mehta (2017) advocated that recently HR has become much more dependent on energy saving technologies. Hess *et al.* (2018) claimed that employees who are doing other jobs but not directly related to environmental function, they are also somehow influenced to contribute to the environmental factors.

Green human resource management is a set of strategies for businesses to develop its human resources in ways that improve their environmental performance and long-term sustainability (Wong *et al.*, 2018). When human resource management practices of an organization (recruitment, training, performance measurement, employee involvement, reward systems etc.) are used to develop employee's green abilities, they are known as green human resource management practices (Jaramillo *et al.*, 2018). According to Lee (2009), green human resource management practices help businesses to save costs without sacrificing top talent, positions, or part-time workers. According to Nijhawan (2014), green human resource management practice refers to the actual green human resource management plan, process, and technology applied in an organization with the goal of reducing the negative environmental effect while enhancing the positive environmental effect.

## DIMENSIONS OF GREEN HUMAN RESOURCE MANAGEMENT PRACTICES

Green Human Resource Management (GHRM) practices encompass various dimensions, including green recruitment, green training, green rewards, green performance appraisal, and green employee involvement, each of which contributes to an organization's sustainability goals. Green recruitment involves selecting candidates who align with an organization's environmental values and are equipped to support its sustainability initiatives. This process is essential in ensuring that new hires are eco-minded and can contribute to the organization's environmental management systems, thereby fostering long-term organizational sustainability (Berber and Aleksić, 2016; Sandi *et al.*, 2021; Omune and Nyang'au, 2021). Green training equips employees with the knowledge and skills necessary for efficient resource utilization and environmental conservation, making it a crucial element of GHRM.

Green rewards and performance appraisal systems further support GHRM by incentivizing and evaluating employees' contributions to environmental sustainability. Green rewards, which may include monetary and non-monetary incentives, aim to motivate employees to engage in and support environmental initiatives, aligning their performance with the organization's green objectives (Ullah and Jahan, 2017; Masri and Jaaron, 2017). Meanwhile, green performance appraisal involves setting environmental targets and assessing employees based on their adherence to these goals, ensuring that their efforts are consistent with the company's sustainability agenda (Khan *et al.*, 2021). Additionally, green employee

involvement is crucial for the successful implementation of GHRM practices, as it encourages active participation in sustainability efforts, fosters idea generation, and promotes ecological programs within the organization.

## **CONCEPT OF SUSTAINABILITY OF FOOD AND BEVERAGES COMPANIES**

The environmental awareness began on the 70's with the United Nations Conference on the Human Environment claiming that adequate measures should be implemented to face these problems (United Nations, 1972). Still, only in the 80's sustainability has emerged as a clearer concept, when the World Commission on Environment and Development brought it into mainstream and defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their needs" (Harlem, 1987). Since then, the term sustainability has been defined in numerous ways. According to Charter and colleagues (2002), sustainability means to maintain or prolong both environmental and human health and simply good management. Van de Kerk and Manuel (2008) suggest that it comprises the depletion of resources, the conservation of nature and other ecological aspects, and the human well-being and quality of life.

Organizational sustainability as a concept gained prominence from the report submitted by the Brundtland Commission in 1987; and since then, it has become widely accepted especially in the assembling sectors as it was viewed as an essential administrative and leadership tool. Organizational sustainability as described by Wales (2013) is a process through which management of an organization keeps its business activities running. In the same vein, Chukwuka and Eboh (2018) averred that sustainability is the achievement recorded by an organization in meeting its current needs (customer response) without compromising its future needs. Genty (2021) asserted that organizational sustainability implies having in place the right leadership style, talents, global awareness/intuition and the action plan required in combating threats being faced by modern organizations.

## **DIMENSIONS OF SUSTAINABILITY OF FOOD AND BEVERAGES COMPANIES**

The sustainability of food and beverage companies encompasses various dimensions, including economic, environmental, and social sustainability. Economic sustainability emphasizes a business's ability to generate profit while benefiting local and national economies through job creation and contributions to economic growth (Roberts & Tribe, 2008; Don-Baridam & Diri, 2021). Environmental sustainability involves the responsible use of natural resources, focusing on conservation and reducing negative environmental impacts (Diri, 2021; Amrutha & Geetha, 2020). Social sustainability relates to creating a prosperous society by understanding and meeting people's needs, with a focus on human development, equity, and ethical considerations (Diri, 2021). Additionally, competitiveness, organizational responsiveness, and commitment are critical to sustaining these companies. Competitiveness refers to the ability to provide superior products and services compared to competitors (Li & Liu, 2014; Agbim & Idris, 2015), while organizational responsiveness involves quickly adapting to market changes and meeting customer needs (Hanagandi & Melo, 2018; Hoyt *et al.*, 2007). Commitment, particularly employee commitment, reflects loyalty and attachment to the organization, contributing to its long-term success (Abosede & Adesanya, 2017).

## **REVIEW OF RELATED EMPIRICAL STUDIES**

Razali and Vasudevan (2024) carried out a study on the effect of Green HR Practices on Sustainability in Malaysian Food and Beverage Industry. The study used a quantitative survey method with 210 respondents from Klang Valley. Results indicated a positive relationship between green HR practices (training, recruitment, compensation) and employee engagement in sustainability.

Saputra *et al.* (2024) examined the effect of Green HR Practices on Organizational Citizenship Behavior for Environment Employees at Gembira Loka Zoo, Indonesia. Using a descriptive survey and SEM analysis on 147 employees, the study found significant effects of green training, reward, and recruitment on organizational citizenship behavior in environmental conservation.

Akpobolokami (2023) examined the relationship between Green Recruitment and Organizational Agility in Nigerian Oil and Gas Companies. The study used a cross-sectional survey with 50 managers from five multinational companies, revealing a significant relationship between green recruitment and organizational agility, with partial correlation testing the moderating influence of green work perceptions.

Bekhit *et al.* (2023) study investigated the Impact of Green HRM Practices on Employee Retention and Environmental Sustainability in Egyptian Automotive Industry. Using a descriptive design with 70 HR professionals, the study found Green Rewards and Benefits to be crucial for employee retention and sustainability, while Green Training and Recruitment strongly correlated with environmental sustainability.

Manthena and Ravi (2023) study x-rayed the influence of Green Training on Employee Performance in IT Sector, Indonesia. A descriptive research design with 250 employees from five IT companies in Hyderabad used regression

analysis. Results showed a positive effect of green training on employee performance, with motivation significantly moderating the relationship.

Mesigo *et al.* (2022) studied the effect of Green HR Planning on Organizational Sustainability in Anambra Manufacturing Firms. Using percentage tables and ANOVA on 360 employees, the study found that green performance management and culture policies positively impact pro-environmental practices in manufacturing firms.

Adubor *et al.* (2022) studied Green HRM and Corporate Sustainability in Lagos Manufacturing Companies. A quantitative study with 336 employees using regression analysis revealed that GHRM significantly enhances corporate sustainability by reducing waste and improving the firm's image, thus positively affecting financial performance.

Okechukwu *et al.* (2022) investigated Green HRM Policies and Performance of Manufacturing Companies in Enugu State. A survey of 265 employees using z-test analysis found that green recruitment improves efficiency, and green training enhances effectiveness in Innoson Technical and Emenite Nigeria Limited.

Victor and Worlu (2022) studied Green HRM and Organizational Performance in Rivers State Firms. The study used the Resource-Based View Theory and found significant relationships between green HRM practices (recruitment, training, performance management, compensation) and organizational and environmental performance in manufacturing firms.

Fapohunda *et al.* (2022) carried out a study on the effect of Green Recruitment on Organizational Sustainability in Southwest Nigerian Manufacturing Sector. A descriptive study with 155 employees used regression and correlation analysis, finding that green recruitment practices significantly affect organizational sustainability, including economic, environmental, and social dimensions.

## METHODOLOGY

### STUDY DESIGN

This study utilized a descriptive survey research design. Surveys are used as tools by researchers to gain a greater understanding about individual or group perspectives relative to a particular concept or topic of interest. It is a quantitative research method used for collecting data from a set of respondents. The reason for the choice of survey research design is that it helped the researcher to collect data from respondents regarding their views and knowledge concerning the study variables in order to achieve the study objectives.

### THE STUDY AREA

The study is limited to the 14 food and beverage companies in North Central, Nigeria as attached in the appendix D with their addresses.

### POPULATION OF THE STUDY

The population of this study consists of three hundred and twenty-five (325) staff of fourteen (14) food and beverage companies in North Central, Nigeria (Human Resource Department, 2024) who have adequate knowledge of the company's operation overtime to ensure objectivity of responses. A breakdown of the population is presented in Table 1:

**Table 1: Staff Population of Food and Beverages Companies**

S/N	Company	No. of Staff
1	NASCO Group	18
2	Grand Cereals and Oil Mills Limited	31
3	Cway Food and Beverages Company Limited	23
4	Aninze Foods and Drinks Limited	27
5	Nana Foods Processing Enterprise	22
6	Tito Yoghurt Company	29
7	Pandagric Novum	14
8	Danla Fruits Company	22
9	7Up Bottling Company	28
10	Miki Foods Industry	35
11	Adama Beverages Limited	23
12	Ojoneyo Cassava Production and Processing Limited	19
13	Somafed Food Industry Nigeria Limited	18
14	Maizube Nigeria Limited	16
	<b>Total</b>	<b>325</b>

Source: Human Resource Department, 2024

## SAMPLE/SAMPLING TECHNIQUES

The study used a census approach due to the small population size. All 325 staff members of food and beverage companies were included as the sample, ensuring a desired level of precision. These staff were selected for their presumed knowledge and ability to provide insights on green HRM practices and organizational sustainability.

## INSTRUMENT OF DATA COLLECTION

The data for this study were collected through questionnaire administration. A structured questionnaire was designed to collect responses from the respondents. The questionnaire is divided into two sections (Section A and section B) for ease of administration and convenience. Section A is based on personal data of the respondents while section B contains questions on the study variables using five-point Likert-scale which constitutes strongly agree, agree, undecided, disagree and strongly disagree.

## VALIDITY OF THE INSTRUMENT

The researcher made use of the content and construct validity for this study. Content validity was effected by evaluation of the variables by my supervisors and other experts in the area while factor analysis was used for construct validity test. Construct validity was done using factor analysis and the result is presented in Table 2:

**Table 2: Factor Analysis Result**

Variable	Factor	Code	Factor loading	Cronbach alpha
	Green Recruitment and Selection	Grs <sub>1</sub>	.767	.783
		Grs <sub>2</sub>	.796	
		Grs <sub>3</sub>	.769	
		Grs <sub>4</sub>	.801	
	Green Training	Gtd <sub>1</sub>	.788	.795
		Gtd <sub>2</sub>	.803	
		Gtd <sub>3</sub>	.801	
		Gtd <sub>4</sub>	.788	
	Green Reward	Gcr <sub>1</sub>	.804	.793
		Gcr <sub>2</sub>	.796	
		Gcr <sub>3</sub>	.789	
		Gcr <sub>4</sub>	.782	
Green Human Resource Practices	Green Performance Appraisal	Gpa <sub>1</sub>	.803	.806
		Gpa <sub>2</sub>	.822	
		Gpa <sub>3</sub>	.786	
		Gpa <sub>4</sub>	.814	
	Green Employee Involvement	Gei <sub>1</sub>	.791	.793
		Gei <sub>2</sub>	.788	
		Gei <sub>3</sub>	.789	
		Gei <sub>4</sub>	.805	
Sustainability	Competitiveness	Com <sub>1</sub>	.798	.804
		Com <sub>2</sub>	.810	
	Commitment	Co <sub>3</sub>	.837	.856
		Co <sub>4</sub>	.876	
	Organizational Customer Response	Ocr <sub>5</sub>	.809	.809
		Ocr <sub>6</sub>	.810	

*Source:* Researchers Computation Using SPSS Version 25.0, 2024

Construct validity of the instrument was carried out using factor analysis. Factor analysis is used to carry out KMO (Kaiser-Meyer-Olkin) and Barlett's Test of Sphericity (BTS). This was done after content validity was tested through expert contributions by the supervisors.



**Table 3: Kaiser-Meyer Olkin (KMO) and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.768	
Approx. Chi-Square	212.361	
Bartlett's Test of Sphericity	Df	10
Sig.		.000

**Source:** Researchers Computation Using SPSS Version 25.0, 2024.

## RELIABILITY OF THE INSTRUMENT

The result of pilot test carried out on forty staff of two manufacturing firms in Benue State (that are not originally part of the major study), Cronbach alpha (a measure of internal consistency) was used for test and re-test to ensure reliability of the instrument. The test-and re-test method was used to test the dependent and independent variables used in the study. This is a way to assess how well one item's score is internally consistent with composite scores from all other items that remain. A pilot test was conducted on 108 (1/3 of 325) staff of Nutri Food and Beverages and Nochiz Foods Limited in Abuja. A Cronbach alpha of 0.70 and above is considered as reliable (Cresswell and Cresswell, 2018). The result of the reliability test is presented in Table 4 and shows that all the variables were internally consistent and reliable for this study.

**Table 4: Reliability Test Results per Construct**

Variable	No of Items	Cronbach's Alpha
Green Recruitment and Selection	5	0.783
Green Training and Development	5	0.795
Green Compensation and Reward	5	0.793
Green Performance Appraisal	5	0.806
Green Employee Involvement	5	0.793
Sustainability	8	0.815
<b>Overall Reliability</b>	<b>33</b>	<b>0.798</b>

**Source:** Computed Result using SPSS version 25.0, 2024

The result of the reliability test of the research instrument shows that the Cronbach Alpha value for the questionnaire is 0.798. This means that the questionnaire was reliable enough for the conduct of this research as it has Cronbach Alpha statistic of above 0.7 as opined by Cresswell and Cresswell (2018), that a Cronbach alpha of 0.7 percent and above imply that the data is reliable and can be used for analysis. It thus showed that 79.8 % on the scale can be considered reliable with our sample.

## DATA COLLECTION

Primary data served as the major source of data collection for this study. Primary source of data for this study were obtained mainly through structured questionnaire. The structured questionnaire was used to collect data on green human resource management practices as the basis for promoting sustainability in food and beverages companies in Nigeria. The questionnaire is subjected to reliability and validity tests in the course of this study. The result of the pilot study was used to modify the original plan for the study where necessary, while ensuring that the research instrument measured exactly what they are designed for. The researcher obtained a letter of introduction from the Head of Department which enabled him to obtain permission from managers of the companies before distributing the questionnaire. The sample size was distributed conveniently to the staff of the quoted food and beverage companies in Nigeria to avoid bias. This was done with the aid of two trained research assistants to ease the process of data collection.

## VARIABLE SPECIFICATION/MODEL SPECIFICATION

The model employed for this study is multiple regression model which involves the independent variable (green human resource management practices), and the dependent variable (corporate sustainability). Therefore, the model specification to test the formulated hypotheses is as follows:

The model for this research is given as

$$CPS=f(GRC, GTR, GRW, GPA, GEI)$$

Where

CPS = Corporate Sustainability

GRC= Green Recruitment

GTR = Green Training

GRW = Green Reward

GPA = Green Performance Appraisal

GEI = Green Employee Involvement

The regression model, thus is given as

$$FS = x + \beta_1 GRC + \beta_2 GTR + \beta_3 GRW + \beta_4 GPA + \beta_5 GEI + e \dots \dots \dots (1)$$

Where

$x$  = Intercept of the regression

$\beta_1 - \beta_5$  = parameter estimates

$e$  = error term

A priori expectations are:  $\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 > 0, \beta_5 > 0$ : it is expected that the analysis based on the model in question will help to test hypothesis  $H_{01}$  to  $H_{05}$ , answer the five research questions for this study and achieve the five objectives. Green recruitment, green training, green reward, green performance appraisal and green employee involvement are expected to have positive effects on sustainability.

## DATA ANALYSIS TECHNIQUES

Descriptive and inferential statistics were used to analyze data. The data were collated, sorted and cleaned before data analysis was carried out using the Statistical Package for Social Sciences (SPSS Version 25). Responses collected from the respondents were presented in tables while regression analysis was used to analyze the data to determine the effect of green human resource management practices on sustainability of food and beverages companies in Nigeria. The hypotheses formulated for this study shall be tested using student  $t$ -statistics to be generated from the regression model. The level of significance for the study is 5%, for a two-tailed test.

## DECISION RULE

The decision rule shall be that we accept the null hypothesis if the critical/ $t$ -value ( $\pm 1.96$ ) is greater than the calculated value, otherwise, we reject the null hypothesis. That is, using the student  $t$ -test ( $t$ -statistic), we say that a variable is statistically significant if  $t^*$  ( $t$ -calculated) is greater than the tabulated value of  $\pm 1.96$  under 95% (or 5%) confidence levels and it was statistically insignificant if the  $t^*$  is less than the tabulated value of  $\pm 1.96$  under 95% (or 5%) confidence levels. Thus;

$H_0: \beta_0 = 0$  (Null hypothesis)

$H_1: \beta_1 \neq 0$  (Alternative hypothesis).

## RESULTS AND DISCUSSION

### DESCRIPTIVE STATISTICS

The descriptive measures used in this study included the mean, standard deviation, and tests of skewness and kurtosis.

**Table 14: Correlation Matrix**

Variable	GRC	GTR	GRW	GPA	GEI	CPS
GRC	1					
GTR	.479**	1				
GRW	.509**	.563**	1			
GPA	.362**	.543**	.472**	1		
GEI	.572**	.520**	.531**	.458**	1	
CPS	.475**	.456**	.499**	.466**	.541**	1
N	325	325	325	325	325	325

\*\* Correlation is significant at the 0.01 level (2-tailed)

Source: Researcher's Computation from SPSS 25 Output, 2024.

A correlation matrix and the Variance Inflation Factor (VIF) were used to test for multicollinearity among the independent variables used in the study. The result presented in Table 14 found no issue of collinearity among variables. The study found positive correlation between green recruitment and sustainability ( $r=.475; p<.01$ ) and a positive correlation between green training and sustainability ( $r=.456; p<.01$ ). The study further found a positive relationship between green rewards and sustainability ( $r=.499; p<.01$ ) while green performance appraisal and sustainability are also correlated ( $r=.466; p<.01$ ). The result further found a positive link between green employee involvement and sustainability ( $r=.541; p<.01$ ).

**Table 15: Test for Multicollinearity**

Model	Collinearity Statistics	
	Tolerance	VIF
Green Recruitment	.598	1.672
Green Training	.538	1.858
Green Rewards	.561	1.784
Green Performance Appraisal	.643	2.555
Green Employee Involvement	.547	2.827

Source: Researcher's Computation from SPSS 25 Output, 2024

This VIF result further confirms the result of the correlation matrix that there are no problems of multicollinearity amongst the independent variables (Green recruitment, green training, green reward, green performance appraisal and green employee involvement) used in the models because the values are less than 5. According to Field (2009) VIF values in excess of 10 and tolerance value less than 0.2 are an indication of the presence of multicollinearity.

**Table 16: Model Summary**

Model	R	R Square	Adj R Square	Std. Error of Estimate	Durbin-Watson
1	.836	.604	.599	.733	1.642

a. Predictors: (Constant), GEI, GPA, GRC, GRW, GTR

b. Dependent Variable: Sustainability

Source: Researcher's Computation from SPSS 25 Output, 2024

The result in Table 16 above shows a positive relationship that existed between green human resources management practices and sustainability of food and beverages companies in Nigeria. The coefficient of determination ( $R^2$ ) shows that, green human resources management practices contributed 60.4 % variation in sustainability while the remaining 39.6 % is accounted by other factors outside the model. This implies that green human resources management practices dimensions, green training green rewards, green performance appraisal, and green employee involvement are significant in explaining the variation in the dependent variable (sustainability of food and beverages companies).

**Table 17: Analysis of Variance (ANOVA)**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	116.174	5	23.235	43.265	.000 <sup>b</sup>
Residual			171.315	319.537	
Total			287.489	324	

a. Dependent Variable: Sustainability

b. Predictors: (Constant), GEI, GPA, GRC, GRW, GTR

Source: Researcher's Computation from SPSS 25 Output, 2024

The result of the statistical significance of the model is presented in Table 17. The F-ratio in the ANOVA table above tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically and significantly predicts the dependent variable  $F(5, 324) = 43.265, p = 0.000$ . This implies that the regression model is a good fit of the data.

**Table 18: Regression Model**

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
Constant	.996	.229		4.343	.000
GRC	.153	.056	.153	2.729	.007
GTR	.156	.058	.157	2.963	.003
GRW	.145	.049	.169	2.935	.004
GPA	.180	.052	.186	3.456	.001
GEI	.224	.053	.249	4.254	.000

a. Dependent Variable: Sustainability

Source: Researcher's Computation from SPSS 25 Output, 2024

The estimated equation is provided thus:

$$CPS = 0.996 + 0.153GRC + 0.157GTR + 0.169GRW + 0.186GPA + 0.249GEI$$

## GREEN RECRUITMENT AND SUSTAINABILITY

The result of hypothesis one indicated that green recruitment has a positive significant effect on sustainability of food and beverages companies in North Central, Nigeria. Regression was used to test the hypothesis at 5% level of significance and the p-value (.007) was less than the level of significance. This can be statistically given as  $P\text{-value } .007 < \alpha = 0.05$ . This finding is in tandem with that of Omune and Nyang'au(2021) who evaluated the effect of green human resource management practices on employee work performance of four public Universities in South Rift Kenya and found that green recruitment had a significant effect on employee performance. The finding is supported by Khaskheli *et al.* (2020) who established a significant effect of green recruitment in enhancing the productivity of employees. In agreement with the study, Razali and Vasudevan (2024) reported a positive significant effect of green recruitment and selection on the sustainability of food and beverage industry in Malaysia. A study in Indonesia by Saputra *et al.* (2024) also found a positive effect of green recruitment on sustainability through organizational citizenship behavior for environment employees. The result is supported by Akpobolokami (2023) whose study on green recruitment and selection and organizational agility of multinational oil and gas companies in Nigeria found a positive relationship between green recruitment and selection and organizational sustainability. Fapohunda *et al.* (2022) established a significant effect of green recruitment and selection practices on organizational sustainability in the Nigerian manufacturing sector. In support of the result, Okechukwu *et al.* (2022) found that green recruitment has a significant positive effect on organizational efficiency. The implication of the finding is that the recruitment of employees with green skills and competencies will help to enhance business sustainability by having an environmental friendly workplace.

## GREEN TRAINING AND SUSTAINABILITY

The test of hypothesis two as presented in table 18 revealed that there is a positive significant effect of green training on sustainability of food and beverages companies in North Central, Nigeria. Regression was used to test the hypothesis at 5% level of significance and the p-value (.003) was less than the level of significance. This can be statistically given as  $P\text{-value } .003 < \alpha = 0.05$ . This finding is in line with the findings of Owino and Kwasira (2016) who conducted a study to analyze Green HR practices and their influence on environmental sustainability in Nakuru Kenya and revealed that green training and development programs had insignificant influence on environmental sustainability. Ojo *et al.*, (2020) in their study found that green training significantly affect corporate sustainability. Previous research by Razali and Vasudevan (2024) also found a positive significant effect of green training and development on the sustainability of food and beverage industry in Malaysia. Similarly, Saputra *et al.* (2024) found a significant effect of green training on organizational sustainability in Indonesia. Manthena and Ravi (2023) also reported a significant effect of green training and development strategies on employee performance in Indonesia. A study by Okechukwu *et al.* (2022) in Nigerian reported a positive relationship between green training and development and organizational effectiveness. Mesigo, Okeke and Okeke (2022) found a significant effect of green training and green compensation on organizational sustainability of plastic firms in Onitsha, Nigeria. Owino and Kwasira (2016) however, found an insignificant effect if green training and development programs on environmental sustainability. The implication of the finding is that the exposure of employees to greening abilities and training help in reducing waste and reuse materials, enhancing the firm's image, attracting and retaining green customers, and reducing adverse environmental effects.

## GREEN REWARD AND SUSTAINABILITY

The result of hypothesis three showed a positive significant effect of green reward on sustainability of food and beverages companies in North Central, Nigeria. Regression was used to test the hypothesis at 5% level of significance and the p-value (.004) was lower than the level of significance. This can be statistically given as  $P\text{-value } .004 < \alpha = 0.05$ . In line with this finding, Razali and Vasudevan (2024) found a positive significant effect of green compensation and reward on the sustainability of food and beverage industry in Malaysia. Saputra *et al.* (2024) established in their study that green reward positively affects organizational citizenship behavior for environment employees. In agreement with the result, Victor and Worlu (2022) found a positive significant effect of green compensation on organizational performance and environmental management. Similarly, Omoyele and Akpor (2021) found a significant effect of green compensation on organizational productivity in manufacturing industry in Nigeria. The implication of the finding is that green rewards provided to employees such as bonuses on behavioural and technical competence, recognition of environmental management and incentives on acceptance of environmental management help to enhance environmental sustainability.

## GREEN PERFORMANCE APPRAISAL AND SUSTAINABILITY

The result of the multiple regression as presented in table 18 also revealed that there is a positive significant effect of green performance appraisal on sustainability of food and beverages companies in North Central, Nigeria. Regression was used to test the hypothesis at 5% level of significance and the p-value (.001) was less than the level of significance. This can be statistically given as  $P\text{-value } .001 < \alpha = 0.05$ . This is in consonant with the Alam *et al.* (2021) who examined the effect of green human resource management (GHRM) practices (overall) on the organization's environmental performance (OEP) and to identify how the organizations can improve their EP by using GHRM practices through Green Employee Empowerment (GEE) and suggested that GHRM practices lead employees to green empowerment in order to improve environmental performance. The study by Adubor *et al.* (2022) also reported a significant effect of green

performance appraisal on corporate sustainability of manufacturing companies in Nigeria. This finding agrees with Victor and Worlu (2022) who affirmed a positive effect of green performance management on corporate sustainability. The implication of the result to organizations is that the performance of employees with regards to green initiatives should be continuously appraised.

## **GREEN EMPLOYEE INVOLVEMENT AND SUSTAINABILITY**

Based on the test of hypothesis five the study found a positive significant effect of green employee involvement on sustainability of food and beverages companies in North Central, Nigeria. Regression was used to test the hypothesis at 5% level of significance and the p-value (0.000) was lower than the level of significance. This can be statistically given as  $P\text{-value } .000 < \alpha = 0.05$ . This finding is in tandem with that of Omune and Nyang'au(2021) who found a significant effect of green employee relation on employee performance. A study by Norton *et al.*, (2015)revealed a positive relation between employee involvement and organizational sustainability. Corroboratively, Bekhit *et al.* (2023) established a positive significant effect of green human resource management practices such as green employee involvement environmental sustainability in the automotive industrial sector in Egypt. A positive significant effect of green employee involvement on employee work performance is established by Mohammad and Masnoon (2021).The implication of the result is that the participation of employees in green activities help to increase team work among employees thereby increasing sustainability of organizations.

## **CONCLUSION AND RECOMMENDATIONS**

### **CONCLUSION**

The study explores the effect of green human resource management practices on sustainability of food and beverage companies in North Central, Nigeria. The implementation of GHRM practices in food and beverage industry in Nigeria has a positive effect on organizational sustainability. The study concludes that green recruitment ensures that the workforce is environmentally conscious from the start by hiring employees with green skills and competencies. The study concludes that green training provides employees with the necessary skills to support sustainability initiatives. The study also concludes that green reward systems and performance appraisals motivate and hold employees accountable for their contributions to environmental goals. Finally, it concludes that involving employees in sustainability efforts fosters a culture of environmental responsibility and innovation. Collectively, these practices contribute to enhanced sustainability performance, making sustainability of food and beverages industry in Nigeria more resilient and competitive in the long term.

### **RECOMMENDATIONS**

- i. The management of food and beverage companies in Nigeria should pay a serious attention in sustainable implementation of green recruitment practices which involves attracting and selecting candidates who are not only qualified but also have a strong commitment to green environmental practices. This practice ensures that the workforce is aligned with the company's green objectives from the onset. They should prioritize green recruitment, which will help to build a culture of environmental responsibility, leading to enhanced sustainability outcomes.
- ii. That managers of food and beverages companies in Nigeria should adapt more green training, focuses on equipping employees with the knowledge and skills necessary to perform their jobs in an environmentally friendly manner. This includes training on waste reduction, energy efficiency, and sustainable resource usage. For food and beverages companies in Nigeria, investing in green training programs helps foster a workforce that is competent in sustainable practices, ultimately contributing to the sustainability of the companies.
- iii. Managers of food and beverages companies should focus on incorporating green criteria into reward systems to motivate employees in engaging in sustainable behaviors. By recognizing and rewarding actions that contribute to environmental sustainability, firms can encourage continuous improvement in green practices. Implementing green reward systems has been shown to enhance employee commitment to sustainability initiatives, thereby supporting the firm's long-term sustainability objectives.
- iv. Managers of food and beverages companies in Nigeria should focus on green performance appraisal by continuously evaluating employees based on their contributions to the organization's environmental preservation goals. This ensures that employees are accountable for their sustainability-related performance. These companies should incorporate green metrics into their performance appraisals that can effectively align employee performance with organizational sustainability targets, leading to improved environmental outcomes.
- v. Management of food and beverages companies in Nigeria should concentrate on engaging employees in sustainability initiatives which is crucial for fostering a culture of environmental responsibility. When employees are involved in

decision-making processes and sustainability projects, they are more likely to feel a sense of ownership and commitment to the organization's green objectives. Also, promoting employee involvement in sustainability efforts can lead to increased innovation, better implementation of green practices, and stronger organizational sustainability.

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