GREEN HUMAN RESOURCE PRACTICES AND SUSTAINABLE DEVELOPMENT OF BUSINESS ORGANISATIONS IN THE MANUFACTURING SECTOR OF THE NIGERIAN ECONOMY

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Abstract

The effect of climate change has heightened a significant interest in environmental-related areas of human endeavor thus explaining why sustainability is the major concern of stakeholders in the industrial world without any exemptions. Green human resource management (GHRM) practices became an important factor in reducing the ecological footprints and climate change brought about by human activities. Thus, the study set out to identify the place of GHRM practices in sustainable development and examine the influence exerted by components of GHRM on sustainable development using tobacco and beverage organizations in the manufacturing organizations as the unit of analysis. The study adopted a multi-stage sampling technique, and 268 copies of the questionnaires were analyzed. The study identified green recruitment and selection (GRS) practices, green education (T&D) practices, and green compensation practices among the major components of GHRM dominant and prevailing in manufacturing organizations. It was found that GHRM exerted a greater influence on sustainable development after establishing a linear relationship between GHRM and sustainable development at 0.01 and 0.05 Sig. level. It was concluded that a high premium should be placed on GRS practices, T&D practices, and green compensation practices, and recommended that management should develop GHRM objectives that would be tailored towards sustainable development.

Keywords: Green Human Resource Practices, Sustainable Development, Sustainability, Green Knowledge, Green Education, Icarus Paradox

JEL: M12; M51; O15 & Q01

1. Introduction

The advent and impact of the COVID-19 pandemic and the global financial and economic crisis on the overall performance of organizations have made human resources (HR) the focal point of attention, and this has made organizations realize that overcoming the adverse effects of these constraints lies in the efficient use of HR for the purpose of cost reduction and increased profitability. This explains the rationale behind the development of HR policies for practices that incorporate the peculiarity of the environment into its strategy without prejudice to its corporate identity, goals, core values, and where to be in the future (Oginni & Faseyiku, 2012; Oginni & Ogunyomi 2012; Oginni, Ayantunji, Olaniyan, Ajibola & Famolu, 2022). The HR practice is considered valuable because it strengthens organizational performance in all its ramifications and it revolves around recruitment of personnel, education of personnel, compensation of personnel, replacement of personnel, and creation of work systems personnel which are often used to control human activities in the workplace. Human activities in the workplace are responsible for climate change as evident in technological development, globalization, and competitive demands over the past two decades which determine the direction of HR strategy and decisions, thus, putting enormous pressure and tension on HR practitioners both in the short and long run, cumulating into different facets of dilemma either short-term profit making or long-term organizational viability (Oginni, Erigbe, Ojo, 'Laosebikan & Ogunlusi, 2018; Aremu, Oginni & Awobona, 2021; Sukalova, Stofkova & Stofkova, 2022). The effect of climate change has heightened a significant interest in environmental-related

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areas such as social, economic, human, and environmental issues, explaining why sustainability is the major concern of stakeholders without any exemptions. Sustainability has its focus on sustainable development which has been interpreted in different ways depending on the standing points. For example, to ecology scholars, it concerns with the over-exploitation of the natural environment (sustainability of ecological dimension), to business strategy scholars, it is about sustainable competitive advantages (economic sustainability of organizations) and to the United Nations World Commission and Development, it is about meeting the needs of the present without comprising the ability of future generations to meet their own needs (social sustainability dimension). However, despite these different positions, the confluence point is the preservation and protection of environmental issues that might have severe impacts on social, economic, and human sustainability (human development and welfare). To reduce the ecological footprints, an organization should design a strategy to cope with confinement by identifying and analyzing the firm's resources available to achieve economic sustainability with the view to adopting any that can give sustained competitive advantage on account of being rare, valuable, imitable, and difficult to substitute (Oginni & Faseyiku, 2012). An in-depth analysis of these resources indicated that the only firm's resource that matched these criteria was HR. Therefore, a premium should be placed on HR as a driving force in the attainment of sustainable development and the strategy to be designed should be innovative and responsive to ecological demands, leading to the creation of environmentally friendly HR practices known as green human resource (GHR) practices which is a way to greening the workplace for the benefit of the individual, society, natural environment, and the business (Oginni *et al*. 2018). This bears environmental responsibility while carrying out the traditional HR activities that would improve both the economic and environmental sustainability of business by being cognisant of environmental demands (Masood, 2018). To this extent, green human resource management (GHRM) practices have been identified as a strategy to conserve the environment without prejudice to the enhancement of organizational effectiveness and efficiency. The awareness of sustainability through sustainable development has been virtually proclaimed and embraced by all the continents in the world but the degree of embracement has not been at the same pace, most especially in Africa and Nigeria as the unit of analysis. Degradation, exploitation, and wastage of natural resources are still evident in most of the organizations in Nigeria, which can be traced to the inability to adopt policies that would green the work environment and integrate societal and organizational objectives without prejudice to the present and the future. GHR practice has been identified among numerous practices since there is no one-size-fits-all approach to sustainable development, which implies that each country will navigate its course by its culture, economic pursuits, and social priority vis-à-vis its history as well as prevailing political structures. Little attention has been paid by HR practitioners to GHR practices towards environmental sustainability which could have amplified innovation to better societies and overhaul the economic and financial systems. Therefore, this study seeks to understand the place of GHR practices in the sustainable development of manufacturing organizations and investigate the influence of GHR practices with reference to green recruitment and selection (GRS), green education (T&D), and green compensation on sustainable development.

2. Green Human Resource Management (GHRM) Practices

GHR practice as a concept is relatively new as a field in HR management, which resulted in limited literature on this topic. It is a designed system geared towards repositioning employees at all levels of the organization to improve the environmental performance of the organization i.e., all activities concerned with the development, execution, and maintenance that will make employees green (Masood, 2018). It also includes using HRM policies to encourage the sustainable use of resources within business enterprises and at the same time promoting the cause of environmentalism which further boosts employee morale and satisfaction i.e., using HRM practices of recruiting, educating (training and development), and compensating to make

employee green for the benefit of the individual, society, natural environment, and the business (Sukalova *et al.*, 2022). In a nutshell, it is the adoption and application of environmentally friendly HR practices with the alignment between HRM policies and sustainability objectives. The sole aim of (GHRM is to make an organization go green by initiating different environmental awareness programs that are friendly and cost-effective where employees are at the center driving and dictating the direction of core business practices (Marditama, *et al.*, 2021). This explains why Shoaibi *et al*. (2021) posited that GHRM practices are imperative to the implementation of environmental sustainability because of green initiatives to be adopted in the performance of HRM activities such as green recruitment, green education, green compensation, *etc*. In the end, organizations will: have paperless office (emergence of IT has reduced consumption of paper), preserve energy (energy conservative initiatives to reduce environmental impact), use green printing (adoption of preton saver to reduce amount of ink and toner), save water (water wastage due to leakages to be monitored), green building (reduce exploitation of natural resources and ensure energy efficiency, renewable energy, and storm management features), use recycling and waste disposal (use of raw materials and conversion of disposable products into new products), practice green compensation (rewarding performance for supporting environmental activities), and save energy (using innovations to switch off light, fans and other equipment when and where required and installing solar energy systems). In the views of Masood (2018), corroborated by Iqbal (2020) and Atoko (2023), the implementation of GHRM policies toward environmental sustainability will reposition organizations to achieve the following;

1. protecting environmental aspects such as climate change, global warming, energy crisis, *etc*., to make work meaningful and workplace safe and healthy inside and outside of organizations.
2. motivating and developing employees' green abilities that will provide them with the opportunities to be involved in corporate environmental management initiatives and efforts.
3. ensuring and encouraging employees to perform their activities in an environmentally trustworthy way without prejudice to the organizational objectives.
4. providing environmentally friendly products and operations that accommodate changes in environmental programs.

The benefits derivable from the GHRM concept on environmental issues as enumerated by Atoko (2023) have made the practice a must and imperative in the workplace which revolves around green recruitment, green education, and green compensation.

2.1a Green Recruitment and Selection (GRS)

Recruitment is all about attracting a pool of qualified candidates to fill an existing vacancy in an organization based on a well-defined job analysis. The implication of green recruitment is attracting qualified candidates with prerequisite behavior, skills, and knowledge as well as an interest in environmental management systems (Katayan & Chauhan, 2023). GRS could be used to attract candidates who possess environmental knowledge and skills i.e., green knowledge and green skills, and are willing to be involved in the preservation of the environment. It becomes much easier for such organizations to move towards sustainable processes since the candidates have an in-depth understanding of environmental parlance (Oginni & Ogunyomi, 2012; Mwita & Kinemo, 2018). It involves less use of paper and reduces environmental hazard-related issues as electronic and information technology is embraced (Obaid & Alias, 2015).

2.1b Green Education (Training and Development)

Education of employees is the combination of employee training and development which has often been used interchangeably to mean the acquisition of job-specific skills and the totality of knowledge acquired to enhance job performance (Oginni & Ogunyomi, 2012). Green training and development involve the process of adopting on-the-job and off-the-job methods to integrate the goals and objectives of environmental management with those of the

organization and individuals to achieve green environmental performance. Obaid & Alias (2015) posited that the attainment of organizational objectives is a function of employee level of training and development evident through relevant knowledge and skills to the core operations of the organization. Green education revolves around training and development of the right attitudes, behaviors, knowledge, and skills in employees that would herald initiatives on how to make the workplace green with eco-friendly culture and techniques.

2.1c Green Compensation

Compensation is the comprehensive term used to capture employee pay and reward systems (financial and non-financial) of an organization in a holistic way. It is usually designed to attract competent employees, motivate the workforce, and retain competent employees with core and residual skills. In the views of Mandago (2018), green compensation revolves around rewarding employees in a way that would motivate employees to contribute to the environmental goals by adopting green reward systems to preserve the environment such as green recognition, an incentive for environmental compliance, and performance or rewarding green behavior with one or combination of the various types of awards or financial incentives. Therefore, green compensation is a reward system developed to encourage environmentally friendly initiatives initiated by their employees to support environmental activities in the organization (Katayan & Chauhan, 2023).

2.2. Sustainable Development

The concept of sustainability as evident in sustainable development has become a notion among scholars from different disciplines which is responsible for the variety of definitions, but the origin has been subjected to debate (Leal, 2000). However, the concept was formalized in 1987 by the report of the Brundtland Commission (formerly the World Commission on Environment and Development) which was also re-echoed in the 'Earth Summit' held in Rio in 1992 while the Gothenburg Summit in 2001 and the Johannesburg Summit in 2002 marked the watershed in the movements of sustainable development (Dumitrana *et al.e*, 2009), From the available definitions, sustainable development can be described as integrating economic, social, and environmental objectives of society to maximize human well-being in the present without compromising the ability of future generations to meet their needs. This suggests mutually supportive and trade-off approaches when and where necessary because it is the guiding vision for all developmental efforts with a focus on how to ensure socially responsible economic development while at the same time protecting the resource base and the environment for the benefit of future generations. To this end, sustainable development objectives could be summarised into two *i.e.*, to promote the kind of development that minimizes environmental problems and to meet the needs of the existing generation without compromising the quality of the environment for future generations. The implication is that the sustainable development of any country is based on four cardinal pillars of sustainability i.e., human sustainability, social sustainability, economic sustainability (Leal, 2000), and environmental sustainability to capture human activities in the physical environment ranging through population explosion, rapid industrialization, increase in economic activities, urbanization, deforestation, and increased the use of insecticides, pesticides, and chemical fertilizers.

- ✓ *Human sustainability*: This encompasses the development of skills and human capacity to support, maintain, and improve the human capital in society to promote the well-being of communities and society. In the context of business, the focus is on the stakeholders' activities responsible for the making of products or provision of services. Therefore, there is a need to balance available space and natural resources with continual growth and improvement in the health and economic well-being of people. It is all about investment in the education and health systems, access to facilities for improved services, food security, and nutrition as well as knowledge and skills.
- ✓ *Social sustainability:* This focuses on maintaining and improving social quality with concepts such as cohesion, reciprocity, and honesty and the

importance of relationships amongst people which is supported and encouraged by laws, information, and shared ideas of equality and rights. It also affirms the need to preserve future generations and acknowledges that human actions can have a huge impact on others and the world. It is all about the preservation of social capital by investing and creating services that constitute the framework for society's survival and dignity concerning cultures, communities, and globalization. It addresses social and economic improvement that protects the environment and supports equality.

- ✓ *Economic sustainability:* If human sustainability has its focuses on the well-being of the society through investment in education and health while social sustainability focuses on improving social quality and equality then, economic sustainability focuses on improving the standard of living i.e., giving people what they want without compromising the quality of life. In the business context, it is an efficient use of resources to attain high and stable economic growth resulting in profitability over time i.e., achieving economic growth without engaging in the harmful environmental trade-offs that historically accompany growth. It is all about rejecting wasteful short-term processes and embracing the planet's long-term well-being; a practice of conserving natural and financial resources to create long-term financial stability.
- ✓ *Environmental sustainability:* This centers on improving human welfare through the protection of natural capital (e.g., land, air, water, minerals, etc.) which ensures that the needs of the population are met without the risk of compromising the needs of the future generations i.e., the ability to maintain an ecological balance in the planet's natural environment and conserve natural resources to support the wellbeing of current and future generations. In the business context, it emphasizes how to achieve positive economic outcomes without doing any harm, short- or long-term, to the environment. Environmental sustainability integrates other pillars to ensure responsible interaction with the environment to avoid depletion or degradation of natural resources and allow for long-term environmental quality.

Going by the interactions of human activities and the environment, an environmental crisis is inevitable, and this leads to the question of whether sustainable development can be attained by various strategies adopted or not. In the views of Anand and Sen (2000), sustainable development is achievable and attainable which was also corroborated by Leal (2000) who proposed that sustainable development issues can be solved with all four pillars of sustainable development. This position was also supported by Liu *et al*. (2022) who posited that sustainable development is achievable when the pillars are acknowledged and carried out with recourse to the listed conditions.

- ✓ All types of pollution should be minimized.
- ✓ By restricting human activities that maximize environmental problems.
- ✓ Technological development should be input-effective and not input-utilizing.
- ✓ The rate of consumption should not surpass the rate of salvation.
- ✓ For renewable resources, the rate of consumption should not surpass the rate of production of renewable substitutes.

2.3. Relationship between GHRM Practices and Sustainable Development

The work of Sriram and Suba (2018) established a relationship between ecological HRM practices and corporate benefits. It was posited that with the application of GHRM practices, the environment can escape from natural damage. Although some employees found it difficult to adopt GHRM practices as pointed out in the works of Mwita and Kinemo (2018), their position was that the green recruitment and selection practices via job adverts and job assessment process provide a good avenue to attract credible candidates with green orientation or interest for performance and focus. The result was consistent with that of Bhutto and Auranzeb (2016) and Javed and Cheema (2017), which explains that the relationship between green recruitment and selection and performance is positive. Masood (2018) singled out employee education among many HRM practices on account that training is a viable tool to influence employees towards

the adoption of GHRM, thus, making employees develop a natural willingness, inspiration, and commitment that would enable them to channel their efforts and ideas to the greening of the organization. Although there are certain obstacles to the implementation of GHRM through training, these should not deter organizations from concentrating on innovative methods to attain GHRM. The work of Liu *et al*. (2022) and Aremu *et al*. (2021) agreed with this and posited that training plays a pivotal role in shaping environmentally friendly behavior among employees, which would also assist in taking environmentally friendly initiatives for the well-being of the organization and society. It was argued further that through training, a positive green attitude is obtained among the employees, which helps to have pro-environmental attitudes to predict green behavior among employees in the workplace with a strong link to sustainable development goals although they vary from employee to employee. The earlier work of Ehnert (2006) suggested that there exists a positive relationship between green behavior and sustainable development goals. Katayan and Chauhan (2023) assumed that any organization that desires to keep operating for a very long time must embrace and focus on preserving, maintaining, and conserving the ecology; thus, placing a premium on HR initiatives as a way out of the wood and green pay and reward stood out among the HR initiatives. Masood's (2018) earlier work identified green rewards to support the environmental activities of an organization by attracting new talents and sustaining existing employees to gain a competitive advantage over competitors, reduce the hazardous impact of the employees' deviant behavior on the operations of the organization, and enjoy profitability. Atoko (2023) affirmed that green reward systems have a positive relationship with sustainable development and benefit organizations in many ways such as public image improvement, competitive advantage, loyal and committed employees, more awareness of environmental protection, and strict adherence to environmental protection laws. Shoaibi *et al*. (2021) isolated green pay and rewards to be imperative tools for the implementation of organizational cultural policies and environmental sustainability at the same time facilitating the effectiveness and efficiency of the organization.

2.4. Underpinning theory

Social exchange theory and paradox theories were considered suitable for the study. However, the paradox theory was considered the underpinning theory for this study because it has been described as a concept or phenomenon that is contradictory to expectations. The focus is however, on the Icarus paradox being a neologism coined by Miller Danny in 1990 to mean the phenomenon responsible for business failing abruptly after a period of apparent success, where this failure is attributed to the very factors that brought their initial success. This move from success to failure was fostered by overconfidence, specialization, complacency, dogma, and ritual i.e., successes recorded by many organizations were attributed to a unique strategy and outstanding competitive formula which was evident in the growth of these organizations thus bolstering their confidence and desire to focus on those factors that propelled the success. However, the decision to constantly tailor their path along past strategies often led to overconfidence, specialization, complacency, dogma, and ritual, which invariably caused the bane of their failure. The implication of this theory to the study was that the interactions of human activities and the environment over the years have brought about unprecedented landmarks in the history of mankind's development, which was evident in the quality of goods and services offered by businesses for the satisfaction of mankind and improvement in their standard of living as propelled by the degree of advancement in technology from which the businesses profit. The human activities in the workplace that had led to a series of satisfaction, the standard of living, and profitability are now responsible for climate change threatening mankind's satisfaction, survival, standard of living, and organizational development with severe implications on organizational profitability. Derivable from the Icarus paradox theory to avoid failure and severe effects of climate change, and ensure sustainable development, the strategy on the management of human activities in the workplace should be constantly

adopted and adapted to accommodate sustainable development.

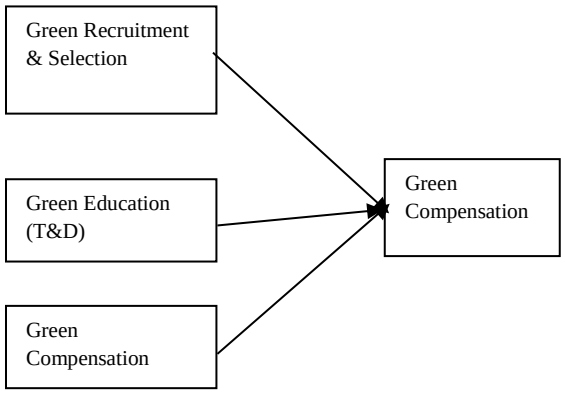

Figure 1. *Conceptual Framework of the Study*
Source: Authors' own work

This showed an interlink of the study's concepts for both independent and dependent variables depicting the underlying assumption that sustainable development (the dependent variable) is influenced by GHRM practices regarding GRS, green education, and green compensation i.e.,

H_1: there is a positive relationship between GRS and sustainable development.
H_2: there is a positive relationship between T&D and sustainable development.
H_3: there is a positive relationship between green compensation and sustainable development.

3. Methodology

The study adopted a survey research method, and this explains why data were collected via secondary and primary sources of data collection. The secondary data were restricted to the data relevant to the scope of the study and were collected from different databases, websites, journal articles, conference proceedings, and other available sources while a survey questionnaire was used as the primary source of data collection. The questionnaire included the Likert 5-point rating scale to measure all the indicators of gGHRM practices and sustainable development. The items for measuring GHRM practices were adopted from the work of Dumont, Shen, and Deng (2017) while that of sustainable development was adopted from the work of Michele and Sara (2017). The study adopted a multi-stage sampling technique starting from purposive, to proportional and random sampling techniques in the choice of study's population, sample size, and administration of the questionnaire to the respondents. The population of the study was taken from the manufacturing sector of the Nigerian economy wherein some manufacturing organizations were selected in favor of the focus of the study from two States (Lagos and Ogun) in the South-West region being the States with high numbers of manufacturing organizations in the region. In all 25 organizations selected, the population7328 from which the sample size of 379 was obtained through Yamane's sample size formula. The business profiles of these selected manufacturing organizations were mainly in the tobacco and beverage industries. The validity and reliability of the research instrument were considered fit for the data collection on account of the pilot study and Cronbach's alpha coefficient result of 0.82 which was greater than 0.70. A total of 379 copies of the questionnaire were randomly administered among the selected respondents in the manufacturing organizations from March to July 2023 but only 305 copies of the questionnaires were returned out of which 268 copies were found usable representing a respondent rate of 71%. This was considered a critical representative sample of the sample size population which was fair and good for generalization. Descriptive and regression data analyses were employed in the analysis of the data collected. Descriptive data analysis was used to analyze the qualitative data and regression analysis was used to analyze the quantitative data.

4. Results

Table 1 shows the demographic characteristics of the respondents which were categorized into five major components i.e., gender, marital status, age, work experience, and educational qualification. It showed that the sector of the selected organizations was dominated by the male gender on account of 66.4% of the respondents falling within this category. It was also evident that the majority of the respondents were married representing 58.6% , while the majority of the respondents' age fell

within the range 41yrs – 50yrs although age distribution seems to be evenly distributed.

Table 1: *Demographic characteristics of the respondents*

Variables	Frequency Distribution	Percentage
Gender		
Male	178	66.4%
Female	90	33.6%
Total	**268**	**100%**
Marital Status		
Single		
Married	68	25.4%
Divorced	157	58.6%
Widow	25	9.3%
Widower	10	3.7%
Total	8	3.0%
	268	**100%**
Age Bracket		
Less than 24yrs	31	11.6%
24yrs – 30yrs	37	13.8%
31yrs – 40yrs	59	22.0%
41yrs – 50yrs	110	41.0%
51yrs & above	31	11.6%
Total	**268**	**100%**
Work Experience		
Less than 5yrs	40	14.9%
6yrs - 10yrs	104	38.8%
11yrs - 20yrs	89	33.2%
21yrs & above	35	13.1%
Total	**268**	**100%**
Educational Qualifications		
WAEC 'O' Level	30	11.2%
OND/NCE	39	14.6%
B.Sc./HND	133	49.6%
M. Sc/MBA.	41	15.3%
Professional Membership	25	9.3%
Total	**268**	**100%**

Source: Survey 2022

The work experience was not cumulative but rather presented the number of years spent by the respondent in the organization as of the time of this study., Most of the respondents were in the organization for a minimum of six years and a maximum of 20 years, and the work experience was evenly distributed. In addition, the educational qualification showed 49.6% of the respondents to be with a university degree. It can therefore be deduced from this simple percentage analysis of the respondents that the selected respondents were a good fit for the study.

Objective 1: Identification of the place of GHRM practices in sustainable development.

Objective 1 seeks to identify the place of GHR practices towards sustainable development of the selected manufacturing organizations located within Lagos and Ogun State in Southwest Nigeria. Based on the review of extant literature, components of GHR practices were woven around recruitment and selection, training and development, performance appraisal, pay and reward systems, talent management and succession planning, employee relations, HR planning, career management, employee health and safety, employee well-being and administrative responsibilities (promotions, relocations, discipline, performance improvement, illness, regulations, cultural and racial diversity, harassment, bullying). To achieve this objective, GHR practices in the selected manufacturing organizations were first identified out of the numerous components of HR practices after which the relationship of the components was established to evaluate the place of GHRM practices in sustainable development. Three major GHRM practices operational were GRS, T&D, and green compensation as evidenced by the filled questionnaire. Table 2 (Appendix) (shows that T&D has the highest mean score (3.751) followed by green compensation (3.314) and GRS (3.042) to imply that employees in the manufacturing organization believed that training and development as one of the HR practices drive quick attainment of sustainable development in comparison to other HR practices although the means of green compensation and GRS were also in near to that of green education. However, the three components identified in the selected manufacturing organizations met the decision benchmark criterion set for agreement at the weighted mean of ≥ 3.0 and that of disagreement was set at the weighted mean of ≤ 3.0. Therefore, it can be deduced that GHRM practices identified in the selected manufacturing organizations were medium/moderate for all the components to imply that these GHRM activities geared towards sustainable development were more than average. Table 3 (Appendix) shows that the correlation coefficients among all the variables of GHRM practices with sustainable development were high and significant with GRS ($r = 0.684$, $p < 0.01$), T&D ($r = 0.742$, $p < 0.05$, and green compensation ($r = 0.504$, $p < 0.01$). The overall implication of this result is that GHRM practices had a significant

relationship with sustainable development and it can therefore be deduced that the GHRM practices had a place in sustainable development. This agreed with the findings of Shoaibi *et al*., (2021) and Sukalova *et al*., (2022) that there exists a positive relationship between components of GHRM and sustainable development wherein GHRM practices are imperative to the implementation of environmental sustainability on account of green initiatives in HRM activities. To further ascertain the magnitude of the place of GHRM practices in sustainable development, a regression analysis was conducted, and the result was presented in Table 4. (Appendix). The F – values of the analysis in Table 4 indicated that the model was a good fit. It shows the value of adjusted R^2 for GRS practices as 0.317 and 0.261 respectively to imply that there is a 32% variation in the sustainable development on account of GRS practices and the beta value of 0.261 indicates that 26% of positive change occurs in sustainable development due to GRS practices. The adjusted R^2 = 0.342 and β = 0.310 values for training and development imply that 34% of the variation in sustainable development is a result of training and development while the beta value signifies that for 1 unit increase in training and development at the workplace, there is an increase of 0.310 units in sustainable development. The green compensation values of adjusted R^2 = 0.213 and β = 0.192 show that there is a 21% variation in sustainable development due to the green compensation practices and the beta value of 0.192 indicates that 19% of positive change occurs in sustainable development as a result of green compensation practices. The overall implication of the result was that all the variables of GHRM practices identified were predictors of sustainable development in manufacturing organizations i.e., recruitment and selection practices, training and development practices, and green compensation practices have a place in sustainable development of the manufacturing organizations in Nigeria as evident in the model results which shows a significant relationship among all the independent variables. This result confirms the findings of Sriram and Suba (2018) and Atoko (2023) which established a relationship between ecological HRM practices and corporate benefits with the assertion that the application of GHRM practices helps the environment to escape from natural damage.

Objective 2: Investigate the influence of green recruitment and selection on sustainable development.

Table 5 (Appendix) shows the summary of the results of the regression analysis for GRS practices. The model showed r = 0.567, which means that the relationship between green recruitment practices and sustainable development was positively significant, and r^2 = 0.321 means that approximately 32% of the total variability in sustainable development was accounted for by GRS practices. In other words, GRS practices influence sustainable development in manufacturing organizations. The outcome of the regression analysis agreed with the earlier findings of Bhutto and Auranzeb (2016); Javed and Cheema (2017) and Mwita and Kinemo (2018) that GRS practices via job adverts and job assessment process provide a good avenue to attract credible candidates with green orientation interest and compatibility with organizational focus.

Objective 3: Examine the influence of T&D on sustainable development.

From Table 6 (Appendix), the value of r shows that there isa significant positive relationship between T&D and sustainable development with the value r = 0.590 while the value of r^2 = 0.348 implies that T&D has about 35% decisive influence on sustainable development i.e., T&D practices influence sustainable development in the manufacturing organizations. The result confirms the earlier findings of Masood (2018); Aremu *et al*. (2021) and Liu *et al*. (2022) that T&D can be used to develop a natural willingness, inspiration, and commitment to efforts and implementation of greening ideas in an organization thus, shaping the behavior of an employee to become environmentally friendly and leverage emerging or potential obstacles.

Objective 4: Investigate the influence of green compensation on sustainable development.

The value of r from Table 7 (Appendix) was r = 0.466 which shows the degree of linear

relationship between green compensation practices and sustainable development while the coefficient of determination value r^2 = 0.217 indicates that the model was able to account for 22% of the variation in sustainable development. The model results implied that green compensation practices influence sustainable development in manufacturing organizations. The result consolidates the earlier works of Katayan and Chauhan (2023) who believed that green pay and reward stood out among many HR initiatives to sustain, preserve, maintain, and conserve the ecology. This also buttresses the work of Masood (2018) which was based on the belief that green rewards can be used to support the environmental activities of an organization by which new talents can be attracted and sustain existing employees to gain a competitive advantage over competitors, reduce the hazardous impact of the employees' deviant behavior on the operations of the organization, and enjoy profitability. Similarly, the result supported the position of Atoko (2023) which established that green reward systems have a positive relationship with sustainable development with corresponding benefits in many ways. The result also supported Shoaibi *et al.*, (2021) position that green pay and rewards were isolated as imperative tools for the implementation of organizational cultural policies and environmental sustainability.

5. Conclusion

The study seeks to identify the place of GHRM practices in sustainable development and examine the influence of components of GHRM practices on sustainable development in manufacturing tobacco and beverage organizations. The study identified three components of GHRM practices as the major predictors of sustainable development in the manufacturing organizations in Nigeria among all the prevailing components of GHRM practices i.e., GRS, T&D, and green compensation. This indicates the place of GHRM practices in the sustainable development of manufacturing organizations in Nigeria although, T&D was found to be the most important as evident in the model's results. The study also revealed that the three components of GHRM practices exerted a considerable influence on the sustainable development of the manufacturing tobacco and beverage organizations. It was therefore concluded that for the manufacturing tobacco and beverage organizations to attain meaningful sustainable development, GHRM practices should receive constant and appreciable attention with a focus on GRS practices, T&D practices, and green compensation practices. Based on the findings of the study, it was suggested that management should give prominence to the components of GHRM practices to drive sustainable development in the manufacturing sector of the Nigerian economy, especially to the three aspects identified in this study without prejudice to other components of GHRM. Similarly, management should put in place a well-developed objective tailored towards sustainable development that would enhance recruiting employees with congruent objectives, place emphasis on education (T&D), and ensure competitive compensation packages.

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Appendix 1

Table 2: Descriptive analysis of the components of green human resource practices toward sustainable development in the selected manufacturing organizations.

S/N	*Variables*	*N*	*Mean*	*SD*	*Rank*	*Remarks*
1	*Green Recruitment & Selection (GRS)*	*268*	*3.042*	*1.664*	*3*	*A*
2	*Green education (T&D)*	*268*	*3.751*	*1.331*	*1*	*A*
3	*Green compensation*	*268*	*3.314*	*1.730*	*2*	*A*

Source: Field Survey, (2023); **Remark, where Agreement (A) is ≥ 3.0 and Disagreement (D), is ≤ 3.0)**

Table 3: Correlational Matrix for GHRM Practices and Sustainable Development

S/N	*Variables Path*	*GRS*	*T&D*	*GC*	*SD*
1	*Green Recruitment & Selection (GRS)*	*1*			
2	*Green education (T&D)*	*0.527***	*1*		
3	*Green compensation (GC)*	*0.581**	*0.621**	*1*	
4	*Sustainable Development (SD)*	*0.684**	*0.742***	*0.504**	*1*

Source: Field Survey, (2023); *Correlation is Significant at 0.05 level. **Correlation is Significant at 0.01 level

Table 4: Regression Analysis of Independent and Dependent Variables of the Study

S/N	Variables Path	Adjusted R^2	F value	Beta(β) value	Sig. p-value
1	*Green Recruitment & Selection (GRS)*	*0.317*	*83.122*	*0.261*	*0.001*
2	*Green education (T&D)*	*0.342*	*57.431*	*0.310*	*0.000*
3	*Green compensation (GC)*	*0.213*	*42.875*	*0.192*	*0.000*

Source: Field Survey, (2023); Researchers' Computation

Table 5: Summary of Regression Analysis Result showing the influence of green recruitment and selection (GRS) practices on sustainable development.

Model	R	R^2	Adjusted R^2	Std error the Estimate
1	0.567[a]	0.321	0.317	0.309

a. Predictor: (Constant), green recruitment and selection
b. Dependent variable: Sustainable Development

Table 6: Summary of Regression Analysis Result showing the influence of green education (T&D) on sustainable development.

Model	R	R^2	Adjusted R^2	Std error the Estimate
1	0.590[a]	0.348	0.342	0.350

a. Predictor: (Constant), green education (training and development)
b. Dependent variable: Sustainable Development

Table 7: Summary of Regression Analysis Result showing the influence of green compensation (GC) on sustainable development (SD).

Model	R	R^2	Adjusted R^2	Std error the Estimate
1	0.466[a]	0.217	0.213	0.219

a. Predictor: (Constant), green compensation
b. Dependent variable: Sustainable Development