An Exploratory Study of Green Human Resource Management and Environmental Performance of Nigerian Manufacturing Companies

Adesola M. A.*1, Yakubu Yahaya2, & Abodunde S. M.3

INTRODUCTION

Environmental hazard precipitated with the aid of the foods and beverages industry is a primary concern to environmentalists, researchers, policymakers, and stakeholders throughout the globe. Ijeoma (2015) testifies that the operational activities of the manufacturing industry in the developing nations have bedeviled the surroundings in the form of air pollution, water pollution, greenhouse gasoline emissions, and biodiversity loss. Additionally, Utile et al. (2017) also confirm that the industry has prompted several and extreme environmental damage to society through pollution, and the likes. In addition, the activities of the sector have affected the socio-culture and monetary framework of local and indigenous communities negatively. In line with assertion, Folorunso & Sajuuyigbe (2018) discover that most of the manufacturing companies find it extremely difficult to meet stakeholder’s expectations in terms of financial performance, environmental performance, and social equity. In the same vein, Bassey et al. (2013) argue that the unserious attitudes of many organizations towards green environment, makes their performance below expectations.

Green human resource management has been recognized as managerial tool that influence employees’ environmentally friendly behavior and environmental performance (Masri, 2016; Stojanoska, 2016; Goyal, 2013). The growing number of research evidence that green human resource practices have the capability to improve organizational environmental performance and sustain organizational behavior by minimizing carbon footprint through green recruitment and selection, green career development, green performance appraisal, green reward system, and green participation (Shaban, 2019; Mwita, 2019; Mandago, 2019; Shoukat, 2017). Consequently, there will be a developing interest from the funding community for environmental facts to be unveiled by agencies (Sajuuyigbe, 2021). In any case, the failure of organizations to embrace greening environment may prompt the chance of presentation to various dangers including the risk of expanded regulatory control by national governments and international organizations, financial risks brought about by pollution and enormous resources use and the harm that can influence the notoriety of the organization (Gerbens-Leenes et al., 2003).

A plethora of studies have been performed on the linkage of green human resource management, and environmental performance in developed and emerging economies such as the United States of America (USA), the United Kingdom (UK), Australia, Western Europe, Malaysia, Bangladesh, Portugal, India, China, Lebanon, Egypt and Palestine (Pham et al., 2019; Melchers, 2021).

Abstract: The study examined the extent to which green HRM practices influence environmental performance with specific reference to Foods and Beverages industry in Nigeria. A descriptive research design was employed for the study, while a purposive sampling procedure was utilized to choose all fifteen (15) quoted Foods and Beverages Companies, while the snowball sampling technique was used to select 10 staff from Human Resources Department of selected companies totaling 150 respondents as the sample size for the study. The study makes use of person correlation, and linear regression. The study established that the level of awareness of green HRM policies in Nigeria’s manufacturing context is low compare with advanced and other developing nations. Further, the study attested that implementation of green HRM practices have a significant influence on environmental performance. This indicates that there is possibility of achieving the Sustainable Development Goals (SDGs) of environmental sustainability by 2030. Consequently, it was recommended that management of Foods and Beverages industry should implement green HRM practices in order to avoid pollution of energy associated with the transportation, and recycling of paper products, shipping, handling, reporting, storage, and filling tasks.

Keywords: Green HRM, Environmental Performance, Green Reward, Manufacturing sector.
Shaban, 2019; Mwita, 2019; Mandago, 2019; Shoukat; 2017; Ullah, 2017; Chowdhury et al., 2017; Diana, 2016; Hosain & Rahman, 2016). However, no studies have examined the effect of green HRM practices on environmental performance in the context of Nigeria’s manufacturing sector. This study, therefore, warrants details to address this contemporary gap in the literature and to grant pointers on how environmental sustainability and performance could be achieved through green HRM practices.

**LITERATURE REVIEW**

**Concept of Green Human Resource Management Practices**

Green Human Resource Management (GHRM) concept is a 21st-century concept that new in human resource management literature. The concept is just finding its fit in human resource management literature and is waxing stronger on a daily basis across the globe. As of today, there is no accepted definition of GHRM among scholars and researchers. The green HRM has different meanings to different people. For instance, Shaban (2019) views green HRM as the effort put in place by the management to minimize or eliminate the pollution emanated from home or factory, and to improve the energy effectiveness and efficiency. In the same view, Mwita (2019) argues that green HRM is the activities HRM policies and practices to improve organizational environmental performance and sustain organizational behavior by minimizing carbon footprint. According to Mandago (2019), green HRM is a technique of making employees aware of making use of natural resources more economically. In the same perception, Shoukat (2017) sees green HRM as a strategy to make every staff of the organization has a sense of a green environment that will benefit society, business, and the natural environment. In the same vein, Rana & Jain (2014) argue that green HRM is the contribution of human resource practices towards achieving environmental sustainability and performance. Mandip (2012) also views green HRM as the integration of human resources into environmental management with a view of reduction of environmental impact. In another study, Uddin & Islam (2015) describe Green HRM as environmentally-friendly human resource practices that assist business organizations to achieve their financial and non-financial objectives through the green environment.

Magsi et al. (2018) establish that green HRM helps firms to reduce environmental costs without losing their talent, and also assists firms to have a competitive advantage over others by being green and creating a new friendly environment. Shafaei et al. (2020) also advocated that green HRM helps to boost the public image of the organization by adding a green initiative to its workplace. Tezel & Giritli (2019) also stated that green HRM improved the performance of the organization via the reduction in employee carbon footprints. Deepika & Karpagam (2016) also noticed that green HRM uses human resource policies within business organizations to promote environmental sustainability and performance.

**Environmental Performance**

The environmental aspect of sustainability concerns protecting the use of natural resources, managing the environment and preventing air, water, land and waste pollution in order to improve and prevent the deterioration of natural resources. The company’s value creation activities involve non-living and living systems, including water, air and earth. Accordingly, indicators for environmental performance are reflected in both the output and the basic data. Production includes emissions and waste, while production includes water, energy and raw materials. Organizations affect the environment through elements at various levels, including local, national, regional and international. Some have been well studied, while others pose significant measurement problems due to their complexity, uncertainty and synergy (Felipe et al., 2017). The aim is not to harm and limit environmental conditions, and to carefully control and use energy and resources, while reducing production waste and contaminated materials prior to disposal so that the environment is safe and operated in a legal manner (Schaltegger et al., 2003). Measuring this aspect of sustainability is a complex and challenging task (Felipe et al., 2017), the literature used companies' contribution to their environmental community as a metric for assessing a company's environmental sustainability.

**Empirical Review**

Previous empirical studies and theoretical studies have convergent opinion on the relationship between green human resource management and environmental performance. For example, Mwita (2019) examines the relationship between green human resource practices and environmental sustainability and performance from the theoretical approach. He found out from the previous empirical and theoretical studies that there is a linkage between green HRM practices and environmental performance. Oyewale (2019) also investigates the extent green HRM dimensions have effect on organizational performance of the manufacturing company. The study discovered that effective utilization of green HRM practices enhances environmental sustainability and performance. In another study, Tang et al., (2017) evaluate that significant of green HRM practices on the environmental performance. They found out that green HRM practices such as green recruitment, green empowerment, green performance management, green participation, and green compensation are the predictors of environmental performance in terms of reduction in waste, reduction in consumption of electric energy, high productivity, increase in product quality, and increase in revenue generation may be achieved.

*Corresponding Author: Adesola M. A*
Shafaci et al., (2020) review the relationship that exists between green HRM elements and environmental performance through archival technique. A growing number of empirical and theoretical studies affirmed that implementation of green HRM elements is a sine qua non to environmental sustainability and performance. In a similar study, Shaban (2019) theoretically reviewed the application of green HRM practices and its impact on environmental sustainability. The conceptual model of the study revealed that the implementation of green HRM practices is a sine qua non to environmental sustainability and performance. Similarly, Ren et al., (2018) also review the previous empirical and theoretical studies on the significant relationship between green HRM practices and environmental performance. They found out that both empirical and theoretical attested that a significant relationship exists between effective implementation of green HRM practices and environmental performance.

Ullah (2017) also does a comprehensive review on the impact of green HRM practices and environmental sustainability and performance. The results of the empirical and theoretical studies indicated that adoption and implementation of green HRM practices is a major determinant of environmental performance in terms of effective and efficient utilization of resources, wastage reduction, employee job satisfaction and environmental friendly. In the same direction, Chowdhury et al., (2017) establish that green HRM practices have a direct relationship with environmental sustainability and performance such as waste minimization, and reservation and preservation of natural resources. Also, Ooi et al., (2017) assess the impact of green HRM practices and the green performance Malaysian organizations. They discovered that green HRM practices such as green recruitment, green training, green performance appraisal, green employee participation, and green compensation have an essential effect on green environment.

Additionally, the study of Deepika & Karpagam (2016) reveal that green HRM practices have a magnificent effect on environmental performance and organization’s green movement. Also, Khurshid & Darzi (2016) carry out a study on the influence of green HRM elements on environmental sustainability. They found that green HRM elements have a significant influence on environmental sustainability. In the same perception, Nisa et al., (2016) reaffirm that green HRM practices have a cordial relationship with environmental sustainability and performance. The study of Guerci et al., (2016) also concur with the previous studies that environmental performance is related to green HRM practices. Thus, the following hypotheses were formulated:

- **H01**: Green recruitment and selection have no significant influence on environmental performance

- **H02**: Green training and development have no significant influence on environmental performance

- **H03**: Green performance appraisal has no significant influence on environmental performance

- **H04**: Green reward system has no significant influence on environmental performance

**Operationalization of the Variables**

This research examined the influence of green human resource management practices on environmental performance. The independent variable is green HRM practices which was measured by green recruitment and selection, green training and development, green performance appraisal and green reward system. The dependent variable is an environmental performance.

\[
Y_t = f(X) \\
Y \text{ is the dependent variable} \quad \text{Environmental Performance} \\
X \text{ is the independent variable} \quad \text{Green HRM practices} \\
X = [x_1, x_2, x_3, x_4] \\
Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \mu_t \\
Y = \text{Environmental Performance} \\
x_1 = \text{Green recruitment and selection} \\
x_2 = \text{Green training and development} \\
x_3 = \text{Green performance appraisal} \\
x_4 = \text{Green reward system} \\
\text{where: } \beta_0, \beta_1, \beta_2, \beta_3, \beta_4 \text{ are regression coefficients} \\
\mu \text{ --- error term,} \\
i --- \text{represents individual firm, and} \\
t- \text{denotes the time (years-period under study)}
\]

**METHODOLOGY**

A descriptive research design was employed for this study because it enables the description of the relevant aspects of the phenomena interest of an individual, and industry perspective. A purposive sampling procedure was utilized to choose all fifteen (15) quoted foods and beverages companies, while the snowball sampling technique was used to select 10 staff from Human Resources Department of selected companies totaling 150 respondents as the sample size for the study. According to Easterby-Smith et al., (2008), the snowball sampling technique is appropriate to be used when it is very difficult to identify individuals that belong to the population. The selection of these companies is based on the fact that they are the market leaders in the consumer products industry in Nigeria and it is assumed that they have common green human resource management policies and practices that make them conscious of green environment. The primary data were sourced via closed-ended questionnaire design for the study. The designed questionnaire was shared using Survey Monkey due to the second phase of the COVID-19 pandemic in the country. In order to ascertain the validity and reliability of the instrument, the face and content validity of the

*Corresponding Author: Adesola M. A*
questionnaire was carried out in the Chartered Institute of Personnel Management Ibadan Branch. The test-retest method of reliability was used when carrying out the pilot study, among 10 HR managers of Foods and beverages industry via the Google document platform due to the 2nd phase of COVID-19 in the country. The linear regression was used to assess the extent to which independent variables independently and jointly influenced environmental performance of foods and beverages industry.

**RESULTS AND DISCUSSION**

Table 1. Relationship between Green HRM Practices and Environmental Performance

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Environmental Performance</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Green Recruitment and Selection</td>
<td>0.249**</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Green training and development</td>
<td>0.214**</td>
<td>0.632**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Green performance appraisal</td>
<td>0.372**</td>
<td>0.423**</td>
<td>0.504**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Green reward system</td>
<td>0.418**</td>
<td>0.374**</td>
<td>0.397**</td>
<td>0.493**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 1 summarizes the relationship between green HRM practices and environmental performance. The r value of 0.249** indicates that there is a significant link between green recruitment and selection and environmental performance. This implies that recruitment and selection of applicants through green process have a strong relationship with environmental performance. The study is consistent with Wehrmeyer (1996) who describes green recruitment and selection as a way to ensure that new talent is familiar with green policies and practices, as well as environmental systems that improve environmental sustainability and performance. In another study, Hosain & Rahman (2016) reiterates that green recruitment and selection adoption through an automated process could save energy on shipping, handling, reporting, storage, and filling tasks.

Also, the r-value of 0.214** implies that green training and development has a significant relationship with environmental performance. This indicates that training and development of employees towards green environment is sine qua non to environmental performance. The study is in agreement with Zoogah (2011) training and development on green environment is a veritable tool to environmental-problems. The studies of Hosain & Rahman (2016); Jabbar & Abid (2014) also attested that green training and development build a cordial relationship among the employees towards green environment. In the same direction, Mwita (2019) reiterates that green training and development expose employees to different aspects of environmental values which make help them to deal with different environmental issues.

Table 1 also revealed that performance appraisal with r-value of 0.372** has a significant association with environmental performance at 5% level of significant. This connotes that evaluation of employees’ environmental performance is a major predictor of environmental performance. The study concurred with previous studies that green performance appraisal is an alternative paradigm to environmental sustainability and ecological performance (Mehta & Chugan, 2015).

The r-value of 0.418** also indicates that reward system has a positive and significant relationship with environmental performance at 5% level of significant. This means that green reward system influences and modifies employee’ green behavior towards green environment. This study is in line with the studies of Deshwal (2015), Khurshid & Darzi (2016) that green reward system has a tremendous benefits in influencing staff interests towards environmental sustainability and performance.

Table 2 summarizes the influence of green HRM practices on environmental performance. The R² value of 0.26 indicates that green recruitment and selection has 26% contribution to environmental performance. The t-value of 4.301, and beta-value of 0.249 indicate that green recruitment and selection have a significant influence on environmental performance at 5% level of significant. The Durbin-Watson value of 1.840 shows that the model is standard. The study supports the study of Mwita (2019) who establishes that there is a linkage between green recruitment and selection, and environmental performance. In another study, Oyewale (2019) discovers that effective utilization of green recruitment and selection enhances environmental sustainability and performance. The study Tang et al. (2017) also reaffirm that green recruitment and selection is a predictor of environmental performance, in terms of reduction in...
waste, and reduction in consumption of electric energy. Thus, Ho1 is rejected.

The $R^2$ value of 0.139 indicates that green training and development have 13.9% contribution to environmental performance. The $t$-value of 3.656, and beta-value of 0.214 indicate that green training and development have a significant influence on environmental performance at 5% level of significant. The Durbin-Watson value of 1.833 shows that the model is standard. The study consistent with the study of Shafaei et al. (2020) that relationship that exist between green training and development, and environmental performance. In a similar study, Shaban (2019) establishes that the application of green training and development is a sine qua non to environmental sustainability and performance. Similarly, Ren et al. (2018) also confirm that a significant relationship exists between effective green training and development. Hence, Ho2 is rejected.

The result reveal that green performance appraisal has a significant influence on environmental performance with the $R^2$ value of 0.34 and $t$-value of 6.699. This means that green performance appraisal independently contributes 13.9% to environmental performance. The beta-value of 0.372 indicates that environmental performance is influenced by green performance appraisal at 5% level of significant. This study concurred with Ullah (2017) who attests that implementation of green performance appraisal is a major determinant of environmental performance in terms of effective and efficient utilization of resources, wastage reduction, employee job satisfaction and environmental friendly. In the same direction, Chowdhury et al. (2017) establish that green performance appraisal has a direct relationship with environmental sustainability and performance such as waste minimization, and reservation and preservation of natural resources. Also, Ooi et al. (2017) discover that green performance appraisal has an essential effect on environmental performance. Therefore, Ho3 is rejected.

The result reveal that green reward system has a significant influence on environmental performance with the $R^2$ value of 0.174 and $t$-value of 7.676. This means that green reward system independently contributes 17.4% to environmental performance. The beta-value of 0.349 indicates that environmental performance is influenced by green reward system at 5% level of significant.

The study agree with the study of Deepika & Karpagam (2016) who establish that green reward system has a magnificent effect on environmental performance and organization’s green movement. Also, Khurshid & Darzi (2016) confirm that green reward system has a significant effect on environmental sustainability. In the same perception, Nisa et al. (2016) reaffirm that green reward system have a cordial relationship with environmental sustainability and performance. The study of Guerci et al. (2016) also affirm that environmental performance is related to green reward system. Thus, Ho4 is rejected.

**CONCLUSION**

Green human resource management has emerged as one the environment-friendly strategies that enhance organizational environmental performance across the globe. However, the construct is still at infancy stage in Nigeria’s manufacturing sector. This study, therefore, examined the extent to which green HRM practices influence environmental performance with specific reference to Foods and Beverages industry in Nigeria. The study established that the level of awareness of green HRM polices in Nigeria’s manufacturing context is low compare with advanced and other developing nations. Further, the study attested that implementation of green HRM practices have a significant influence on environmental performance. This indicates that there is possibility of achieving the Sustainable Development Goals (SDGs) of environmental sustainability by 2030.

**Recommendations**

Based on the findings and conclusion, the following recommendations are made:

1. Management of Foods and Beverages industry should engage automation system in recruiting applicants in order to avoid pollution of energy associated with the transportation, and recycling of paper products, shipping, handling, reporting, storage, and filling tasks.
2. Management of Foods and Beverages industry should organize seminar, conference, workshop and short course on environmental issues. Thus, it will enhance green behavior of employees which is associated with individual characteristics such as beliefs, norms and values, and socio-demographics.
3. Management of Foods and Beverages industry should use environmental performance as indicator of performance management system.
4. Management of Foods and Beverages industry should provide monetary and non-monetary rewards to its staff on the bases of environmental performance.

**REFERENCES**


*Corresponding Author: Adesola M. A*
International Conference on Management, Business and Entrepreneurship (LU-ICMBE)


