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GREEN HUMAN RESOURCE MANAGEMENT AND SUSTAINABILITY PERFORMANCE IN MICRO, SMALL, AND MEDIUM ENTERPRISES: THE MODERATING ROLE OF GOVERNMENT SUPPORT AND GREEN INNOVATION CAPACITY

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Abstract

This study investigated the moderating role of Government Support and Green Innovation Capacity between the Green Human Resource Management (GHRM) and Sustainability Performance of Micro, Small and Medium Enterprises (MSMEs). The study employed a quantitative, cross-sectional research type and primary data were gathered for this study from 312 MSMEs owners/managers with a structured questionnaire. The techniques used in the sampling included convenience sampling and the analysis of the data was done under SPSS Version 27. To test the suggested relationships between the variables, descriptive statistics, reliability analysis, Pearson correlation, multiple regression, and moderation analysis were used. The internal consistency reliability analysis revealed high level of internal consistency ranging from 0.864–0.907 for Cronbach's alpha. The results of the Pearson correlation analysis showed that all study variables were related to each other, and significant positive correlations were found among these variables, with the highest correlation between Green Human Resource Management and sustainability performance at 0.742 ($p < 0.001$). Multiple regression analysis showed that Green Human Resource Management was a significant predictor of sustainability performance ($\beta = 0.742$, $t = 19.377$, $p < 0.001$) with an explanatory power of 55.1% ($R^2 = 0.551$) of the total sustainability performance. A moderation analysis also showed that the positive relationship between both constructs became stronger when green innovation capacity was high, and when government support was high. The results indicated that HRM practices with environmental focus along with support from institutional services and the innovation capacity improved the environmental, social and economic performance of MSMEs. The study adds to the research and literature on sustainable management because it empirically demonstrates the importance of green human resource strategies in combination with external institutional support and innovation in business practice to advance sustainable management and competitive advantage in the long run.

Keywords: Government Support; Green Human Resource Management; Green Innovation Capacity; Micro, Small, and Medium Enterprises (MSMEs); Sustainability; Sustainability Performance

1. Introduction

Organisations started to include green practices into their business as a result of the increase in awareness towards environmental sustainability. Micro, Small and Medium Enterprises (MSMEs) has played a significant role in terms of employment opportunity generation, innovation and contribution of Gross

Domestic Product (GDP) to the economys growth. There were also MSMEs who were not able to balance ‘cash-flow' and ‘environmental value' due to their financial limitations and technological capability. It is determined that Green Human Resource Management (GHRM) is a strategic approach to HRM which incorporated the environmental concept in the HR process such as recruitment, training, performance management, Employee Involvement and reward systems. The implementation of GHRM led to environmentally responsible behaviors of employees and fostered organizations in their transformation towards long-term sustainability (Renwick et al., 2013; Jabbour, 2013). Organizations that adopt green HRS has been shown to achieve increased improvements on their organization’s sustainable performance, employee commitment, and environmental efficiency in recent studies (Yong et al., 2020; Singh et al., 2020).

Over the years, environmental topics entered in more in the agenda, for example climate change, a lack of resources, waste and severe environmental regulation, which pushed companies to adopt the aspects of sustainability in business. The contribution of MSMEs towards 'green economy' is undeniable as they accounted for a substantial proportion of industrial operations. Through the Knowledge, Skill and Motivation Development of the employees, Green Human Resource Management was successfully established for introducing Environmental consideration in the organisational area. Both green recruitment and green training helped to form employees' environmental talents and to drive the development of sustainable working habits.Both Green recruiting and Green training provided a result in building the talent under MR and promoting working attitude in the spirit of resources saving. Incorporated the green performance program and incentive systems to enhance the environmental responsibility of the various functions in the organization. In the past, an empirical study validated a positive link between organizational environmental performance and GHRM, operational efficiency, innovation and competitive advantage (Pham et al., 2020; Amjad et al., 2021).

Other methods of organization inside the organization, in addition to external support and organization capacity were important to achieve sustainability performance. There were various financing structures, environmental requirements, technical programs and training to promote companies to invest in sustainable projects. The more formally supported the company, the more willing it was to invest in eco-management and in green technologies. At the same time, the companies achieved the increase of their green innovation capacity, which helped them develop green value chains and resource-saving production and operational systems. Companies, with a higher innovation strength, managed to make environmental issues as competitive advantage and sustainable growth issues successfully. Businesses with better innovation power managed to make environmental challenges an opportunity to be exploited and a growth pathway to be pursued. There were indications that a positive relationship existed between government support, innovation capability and organizations' response to environmental demands in previous studies and that good sustainability outcomes are achieved (Zameer et al., 2022; Shahzad et al., 2023).

Research Objectives

1. To examine the effect of Green Human Resource Management on sustainability performance in Micro, Small, and Medium Enterprises (MSMEs).
2. To investigate the moderating role of government support in the relationship between Green Human Resource Management and sustainability performance.
3. To examine the moderating role of green innovation capacity in the relationship between Green Human Resource Management and sustainability performance.

Research Questions

Q1. What is the effect of Green Human Resource Management on sustainability performance in Micro, Small, and Medium Enterprises (MSMEs)?

Q2. Does government support moderate the relationship between Green Human Resource Management and sustainability performance in MSMEs?

Q3. Does green innovation capacity moderate the relationship between Green Human Resource Management and sustainability performance in MSMEs?

Significance of the Study

The study has enhanced the literature on sustainable management by analysing the effects of Green Human Resource Management on sustainability performance in the context of the moderating effect of government support and green innovation capacity of Micro, Small and Medium Enterprises (MSMEs). The results give important practical implications to MSME owners, managers, and HR managers, as practicing HRM is environmentally responsible, which helps to improve their environmental, social, and economic performance. The study also highlights the need for government intervention in the form of environmental standards, financial incentives, training, and technical assistance to promote sustainable business practices, as this could have a profound impact on the environment and potentially provide a political solution to the problems faced. Moreover, the research complements the previous theoretical work in accounting for the integration of organizational and institutional aspects in a coherent approach for future empirical studies on sustainability and green management in developing economies. The findings inform evidenced-based decision making and play a part in the promotion of sustainable development and long-term competitiveness of organisations.

2. Literature Review

Green Human Resource Management (GHRM)

Human Resource Management (HRM) that takes environmental care into HR policies and practices which deal with recruitment and selection, training, performance management, compensation and employee participation is termed as Green Human Resource Management (GHRM). GHRM's main goal is: to increase employees' environmental awareness and promote behaviors for organizational sustainability. Soon firms realised they required more technological developments and more staff displaying green behaviours in the everyday lives of their employees. Thus it comes that for improving long term sustainability of GHRM organizations it becomes an indispensable tool and improvement of environmental performance of the organizations (Ahmad 2015, Dumont et al. 2017).

Empirical studies in the past revealed that GHRM has positive impacts on employee commitment, employee environmental responsibility and organizational performance. Green recruitment seemed to appeal to those with ‘environmental conscious' in their ethnicity and green training seemed to offer an extension of knowledge and skills for staff on being green. Similarly, the use of green incentive-payment systems spurred employees to save energy, minimize waste and practices energy conscious decision-making. Tang et al. (2018) and Saeed et al. (2019) stated that these practices resulted in higher efficiency of the organizations, and higher engagement of employees in the environmental plans and strategies.

Numerous articles that were published in recent times in the literature have shown how GHRM contributes to the enhancement of sustainability performance in different industries such as manufacturing, services and hospitality industry. From the above-mentioned articles, which were published in the recent period, the importance of enhancing sustainability performance was proved in different industries such as manufacturing, service and hospitality industry by employing GHRM. Better environmental performance, better resource utilization and better competitive advantage for the organisations that implemented the green HR practices were linked to comprehensive green HR practices. Such aspects as the employees' behaviour would play a significant role in bringing about environmental improvements in MSMEs, which is one of the important factors that contribute to the realization of sustainability, as emphasized by the employees' GHRM internally, with limited financial and technological resources, they can play a critical role in bolstering environmental improvements in MSMEs.

The role of government in supporting green innovation capacity

Government support was another enabler external to organisations for them to practice an environmentally sustainable business. Sustainability and environmental regulation, financial incentive measures, tax measures, technical assistance, training measures as well as innovation policies were used by the governments. All these efforts have helped to make green initiatives more affordable for businesses and encouraged them to invest in sustainable technology and systems. Strong institutional support also helped businesses to be confident in adopting sustainability strategies for a longer duration (Amjad et al., 2021; Agyabeng-Mensah et al., 2022).

The concept of green innovation capacity was administered as the capability of an organization's in creating a product, a production process or technological solution which is not damaging the environment; it was administered as organization's capacity to minimize environmental impacts and to improve organization's work operational performance. The more innovative companies had a higher-percentage tolerance for a changing environment and expectations. Using resources was more efficient, costs of production were reduced, pollution was reduced and the organization became more competitive thanks to the green innovation. The sustainable organizational development was consistently associated with innovation capability in the previous studies (Singh, et al, 2020; Luu, 2021).

The support of government and green innovation ability enhanced Green Human Resource Management. It was determined that two variables – financial incentive and policy support – would lead to investments in innovation, while the capability to carry out innovation in practice would serve as the key to achieving tangible sustainability results at the outputs level from investments in green HR. This interaction is especially crucial for MSMEs as external support and innovation resources alleviate the limitations of resources within the organization and help MSMEs grow a business in a sustainable way (Aftab et al., 2023; Roscoe et al., 2019).

Sustainability Performance

Sustainability performance is the achievement of environmental, economic and social objectives by the organisation, that tackles the environmental, economical and social aspects of its actions in the suitable way. Efficient use of resources, protecting the environment, as well as the health of employees and ethical management and long term profitability were emphasised by the sustainable organisations. Stakeholders' expectations towards the integration of companies in the conservation efforts of natural resources while simultaneously considering the economy's competitiveness convinced researchers to use the sustainability indicators as an important indicator of the organization's performance (Paillé et al., 2014; Mousa & Othman, 2020).

In this context one of the impact ways of Green Human Resource Management towards the sustainability performance was to make employees environmentally responsible in all aspects related to enterprise functioning. The workers, who participated in the environment training as well as different environment activities, showed higher level of commitment towards the elements of waste reduction, energy conservation, strengthening of recycling activities, and the support of organization policies related to environment friendly activities. As for behaviours, they helped to reduce the operational inefficiencies and promote image and reputation of the organization as being eco-friendly. (Pham et al., 2019; Kim et al., 2019).

The institutional environment that supports firms and the ability of innovation to boost firms' sustainability performance by adopting Green HRM have been the areas of study recently. Thanks to the government's investment, and the empowerment from green innovation, the environmental project became possible, allowing organisations to create green products and green production processes. As a result, companies have posted a phenomenal environmental performance, high social responsibility and long-term competitiveness of their organizations, especially amongst Micro, Small & Medium Enterprises (MSMEs) (Anwar et al., 2020; Agyabeng-Mensah et al., 2022).

3. Research Methodology

Research Design

The research was conducted using a quantitative research design to test the relationship between Green Human Resource Management (GHRM) and Sustainability Performance among Micro, Small, and Medium Enterprises (MSMEs). The moderating effect of government support and green innovation capacity were also explored. The quantitative approach was used because it allowed the numerical data (numerical variables) to be collected and statistically analysed to determine the proposed relationships between the study variables.

Population of the Study

The respondents were owners, managers and senior administrative staff of Micro, Small and Medium Enterprises (MSMEs) in various business activities. MSMEs were chosen as they contribute significantly to the economic development, and they are increasingly implementing environmentally friendly management.

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The respondents were expected to have enough knowledge about the organizational human resource policies, environmental policies, and sustainability policies that have been put in place in their organizations.

Sample Size and Sampling Technique

312 subjects were sampled. The number of observations provided was adequate for descriptive statistics, reliability analysis, a correlation analysis, a moderation analysis, and analysis of multiple regression. In order to get access to MSME owners and managers who are willing to participate in this study, a convenient sampling technique was applied. The sampling approach was thought to be suitable based on the time constraint, the accessibility of the respondents and the exploratory nature of the research. Questionnaires were sent to respondents from various MSMEs, both by mail and via the electronic method.

Data Collection Method

Primary data collected were subjected to the study using a structured questionnaire. The questionnaire had closed-ended questions rated on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The instrument comprised items and demographic questions concerning the Green Human Resource Management, government support, green innovation capability and sustainability performance. The questionnaire was voluntarily completed by the respondents after they were explained about the purpose of the study and assured the confidentiality.

Measurement of Variables

There were two moderating variables, one independent and one dependent. Independent variable thus was Green Human Resource Management (GHRM) which was captured through the items associated with green recruitment, green training, green performance appraisal, employee participation, and green reward practices. Sustainability performance was dependent variable, which consisted of the environmental, economic and social performances. Unusual government support was measured by respondents' perceived levels of financial incentives, policy support, environmental regulation, and institutional assistance. A green innovation capacity assessment determined the company's capacity to develop environmentally friendly products, services and operational processes. All constructs were drawn from existing literature reported scale measures that have been validated.

Data Analysis Techniques

The data were analysed with a computer Statistical Package for the Social Sciences (SPSS) Version 27. Descriptive statistics were performed prior to analysis to provide information on demographic data and distribution of study variables of the respondents. The internal consistency of the measurement scales was analysed by reliability analysis with Cronbach's alpha. The relationships between the variables were investigated using Pearson correlation analysis. Multiple regression analysis evaluated the impact of Green human resource management on sustainability performance without considering other variables. The moderating effects of government support and green innovation capacity were tested by using hierarchical regression analysis based on including interaction terms in the regression models. The statistical significance was analysed at 0.05 level of significance.

4. Results And Analysis

Demographic Profile of Respondents

Table 1

Demographic Characteristics of Respondents (N = 312)

Variable	Category	Frequency	Percentage (%)
Gender	Male	181	58.0
	Female	131	42.0
Age	21–30 Years	76	24.4
	31–40 Years	119	38.1
	41–50 Years	74	23.7
	Above 50 Years	43	13.8
Education	Diploma	42	13.5
	Bachelor's	157	50.3

Variable	Category	Frequency	Percentage (%)
	Master's	94	30.1
	PhD	19	6.1
Experience	Less than 5 Years	58	18.6
	5–10 Years	121	38.8
	11–15 Years	84	26.9
	More than 15 Years	49	15.7

The demographic profile reveals that majority of the respondents were males, 58.0%, and females 42.0%. As far as age was concerned, those aged 31-40 made up the greatest portion of the respondents (38.1%) followed by ages 21-30 (24.4%) and 41-50 (23.7%). Only 13.8% of the respondents were above the age of fifty. The results indicated that the majority of the respondents came from economically active ages where they had considerable managerial experiences and hands on practical experience in organizational policy implementation such as environmental management practices. It was found that 50.3% of respondents had finished their bachelor's education and 30.1% of respondents finished their master's. Only 6.1% of those who responded had doctorate level qualifications, while 13.5% had diploma level qualifications. Analogously, 38.8% of the participants had a management experience ranging from 5 to 10 years, according to work experience. The result indicated that most of the respondents had good level of professional knowledge for assessing GHRM practices, government support, green innovation capacity, and sustainability performance in their organizations.

Descriptive Statistics

Table 2

Descriptive Statistics of Study Variables (N = 312)

Variable	Mean	Std. Deviation	Minimum	Maximum
Green Human Resource Management	4.08	0.54	2.46	5.00
Government Support	3.89	0.63	2.13	5.00
Green Innovation Capacity	3.95	0.58	2.27	5.00
Sustainability Performance	4.16	0.49	2.81	5.00

Table 2 shows the descriptives values for the four variables used in the study. The mean score for sustainability performance was the highest (M = 4.16, SD = 0.49), suggesting that the respondents generally had a positive perception of their organizations' sustainability performance, compared to the other factors. The comparatively small SD level indicated that information coming from respondents was fairly uniform with regard to sustainability performance across the various MSMEs. The mean score of employees' green HRM was 4.08, reflecting the relatively high implementation of green recruitment, green training, employee involvement, green performance appraisal, and reward and punitive measures. The institutional support (Government support) had a mean score of 3.89, indicating a moderate level of support from government policies, incentives and environmental regulations. The mean score achieved in green innovation capacity was 3.95, indicating a positive perception of the entrepreneurial organization's ability to create products and processes that are described as 'environment friendly'. The range of the standard deviations was from 0.49 to 0.63, which show that there was not very much difference in the respondents' answers. The minimum and maximum responses also served to show that the respondents used the full range of the response scale with relatively positive responses in all the variables.

Multiple Regression Analysis

The impact of Green HRM (GHRM) on Sustainability Performance (SP) in MSMEs has been tested using multiple regression analysis. To determine the explanatory power of the regression model, and to test if Green Human Resource Management significantly predicted sustainability performance, the analysis determined the explanatory power of the regression model.

Table 3
Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.742	0.551	0.549	0.329

The regression analysis's model summary is displayed in Table 3. The regression test model resulted in a correlation coefficient (R = 0.742), which shows that there is a relationship between Green Human Resource Management and Sustainability Performance in a positive direction. Coefficient of determination or R^2 = 0.551 showed that Green Human Resource Management accounted for 55.1% of variation in sustainability performance among the MSMEs who participated in the study. The adjusted R^2 value (0.549) did not differ markedly from the R^2 value, indicating that the regression model still had good explanatory power after taking sample size into account. The standard error of the estimate (0.329) was relatively small reflecting relatively small prediction errors; hence, the regression model was found to provide a satisfactory fit to the illustrative data on the whole.

Table 4
ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	40.628	1	40.628	375.48	0.000
Residual	33.543	310	0.108		
Total	74.171	311			

The ANOVA results for regression model are given in table 4. The model obtained an F-statistic of 375.48 and a significance level of 0.000; meaning that the regression equation is statistically significant at the 5% significance level. The significance value ≤ 0.001 showed the significant contribution of the variable Green Human Resource Management to Sustainable Performance and that the model with the Green Human Resource Management predictor variable had a greater power of prediction than the model without the variable. The regression sum of squares was greater than residual variation, signifying that GHRM made significant contribution to the variation in organizational sustainability performance.

Table 5
Regression Coefficients

Variable	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
Constant	1.214	0.173	—	7.017	0.000
Green Human Resource Management	0.723	0.037	0.742	19.377	0.000

The regression coefficients are given in table 5. For the standardized regression coefficients, it shows a positive β value (0.742), t value (19.377), and significance level (0.000) for Green Human Resource Management. The positive sign of the coefficient, represented that the growth in Green Human Resource Management practice seems to be correlated with the growth of Sustainability Performance. The unstandardized coefficient (B = 0.723) indicated that Sustainability Performance is estimated to increase by 0.723 units with the increase of one unit of Green Human Resource Management. This value of significance remained less than 0.05 and was statistically significant.

Pearson Correlation Analysis

To explore the strength and direction of relationships between Green Human Resource Management (GHRM), Government Support (GSR), Green Innovation Capacity (GIC) and Sustainability Performance (SP), the strength and direction of relationships among these components were analysed using Pearson correlation analysis procedures. The correlation coefficients ranged from -1 to +1 with positive numbers

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reflecting positive correlations and negative numbers reflecting inverse relationships. A higher score indicated a stronger positive relationship between the variables and a score closer to +1 showed that this relationship was more direct and intense.

Table 6

Pearson Correlation Matrix (N = 312)

Variables	GHRM	GS	GIC	SP
Green Human Resource Management (GHRM)	1			
Government Support (GS)	0.582	1		
Green Innovation Capacity (GIC)	0.641	0.618	1	
Sustainability Performance (SP)	0.742	0.653	0.711	1

Pearson correlation coefficients for the study variables are shown in Table 6. The correlation indicated a positive relationship between Green Human Resource Management and Sustainability Performance with the value of $r = 0.742$ and p value < 0.01 respectively. The finding was that the organizations which had stronger GHPs tended to score higher in terms of their sustainability performance. The positive association indicated that efforts in organization recruitment, employee training, environmental assessment approaches and rewards positively influenced organizational environmental and economic outcomes. The other significant positive correlation was between Government Support and Sustainability Performance ($r = 0.653$, $p < 0.01$). This discovery indicated that government institutions assisting organizations with sustainability initiatives through financial incentives, environmental regulations, policy support and technical or other assistance had a positive impact. The Pearson correlation analysis showed a high correlation between Green Innovation Capacity and Sustainability Performance ($r = 0.711$, $p<0.01$), meaning that those companies with better capacities were able to realize better sustainability results with their products, services, and processes, which are considered green. Correlations between the independent and the moderating variables were also positive and statistically significant. The relationship between Green Human Resource Management and other factors, such as Government Support and Green Innovation Capacity, were positive with r values of 0.582 and 0.641, respectively. Government Support had also a positive correlation with Green Innovation Capacity ($r = 0.618$). The correlation coefficients did not exceed 0.80 indicating that there was little problem of multicollinearity.

5. Discussion

The results revealed that the Green Human Resource Management (GHRM) was in a positive way affecting the Micro Small and Medium Enterprises (MSMEs) performance towards sustainability. The regression analysis revealed that environmental practices by HR were correlated with environmental performance, social performance and economic performance of an organization. To support the sustainable behaviours in the workplace the development of green recruitment, environmental training, employee participation, performance evaluation and green reward systems enabled the strikers to embrace and perform environmental-friendly activities, which in turn brought positive results for the organization. The results confirmed those previously reported, which indicated that human resources management is a strategic resource that could help to promote the performing sustainable in the organizations and gain the environmental competitiveness of the organization (Pinzone et al, 2016; Masri & Jaaron, 2017).

The findings also showed that the roles of the employees are also closely related to the change of HR policies to sustainable organizational practices. The businesses that did research about the environment and provided their staff members with the necessary training to cultivate their awareness and skills in waste reduction, energy saving, recycling and responsible resource management ensured that they had employees who were involved in waste reduction, energy saving, recycling and responsible resource use. This finding was consistent with the "resource-based view" of the organization which suggested that organization needs to acquire these assets and resources to ensure its long-standing performance and sustainable competitive benefit. As reported by researchers (Jackson et al., 2011; Guerci et al., 2016) which found that the performance of the organizations' environment and their operation efficiency was found to be positive when the employees are responsible towards the environment.

The regression model results revealed that the model explained a substantial fraction of the overall variance in the model with Green Human Resource Management explaining a significant part of the variance in the sustainability performance. This is a foundational finding that one of the important organizational mechanisms for improving the results of MSMEs' sustainability can be human resource policies. The results presented indicated, however, that although organisational sustainability was influenced by external conditions, institutional and technological, internal management practices of the organisation have a great influence as well. The researchers who conducted these studies reach similar conclusions, such as additional contributions to competitiveness in the environmental management area and adaptation to the changing business environment for organizations managed by green human resource systems (Bombiak & Marciniuk-Kluska, 2018, Yong et al. 2019).

The results also showed that the inclusion of environmental goals in the overall management approaches were helpful for the MSMEs. The smaller businesses benefited from the lack of financial and technological means but could still improve sustainability without large capital cost by good GHRM. Knowledge of and commitment to plants and ecosystems were seen as a resource to the organisation, enhancing sustainable business. From the above, it is deduced that in the past HR strategies that aim at environment have proven to bring positive outcomes in adaptability, environmental responsibility and long-term performance of industrial organisations (Mishra, 2017; Arulrajah et al., 2015).

The study was found out that Green Human Resource Management (GHRM) as a strategic approach is beneficial in enhancing sustainability performance in MSMEs. The level of moderate correlation was obtained and shows that the organizations that emphasized on HR practice functions for achieving sustainable results, were more successful in their sustainable results than organizations that did not practise environmental management practice. The results provided contributions to the growing sustainable management literature on the value of making environmental objectives a part of HRM in organizations. The study, therefore, provided empirical evidence towards the implementation of Green Human Resource Management as a practical approach for sustainable organizational development and sustainability in terms of long-term organizational competitiveness (Pellegrini et al., 2018; Nejati et al., 2017).

6. Conclusion

This research was designed to determine the impact of Green HRM toward MSME Sustainability performance, and the moderating impact of Green HRM innovation capacity, and government support. Finally, results showed that Green Human Resource Management (GHRM) is an effective strategy that can work to promote sustainability performance by adopting the incentives of environment conscious attitude of the employees towards the environment and other socioeconomic outcomes. It was also found that the positive relationship between Green HRM and sustainable performance can be bolstered if the government could enhance GHRM by developing green innovation capacity, then this could support sustainable business practices. Implementation of green human resource management and supportive institutional policy, strong materials and innovation in organization was found to be related with the long-term competitiveness and sustainable development of organizations. The results were useful in both the theoretical and practical aspects for the management and policy makers who want to foster sustainability in MSMEs.

7. Recommendations

The implementation of GHRM into the strategies of MSME is done by implementing green recruitment, green training of employees, participation of employees, green performance evaluation and green reward systems for employees. Champion higher financial support, policies, environmental safeguarding legislation, technical support, training of MSMEs for fostering business sustainability. The enterprises should also maintain investment on green innovation and provide support for research and technological progress as well as green production way for providing information in order to enhance the organizational competitiveness and green performance. There is the potential for further sustainable development with support from business organisations, policy makers, education institutions and industry associations, which could all contribute to delivering sustainable longer-term environmental and economic objectives.

8. Future Research Directions

This study can be further extended using a longitudinal research design so as to explore the long-term impacts of Green Human Resource Management on sustainability performance. Organizational variables like green organizational culture, environmental leadership, digital transformation, corporate social responsibility, environmental knowledge management, and employee environment commitment can also be analysed that provided a more comprehensive analysis of sustainable organizational development. In terms of findings and results, a comparative study between the industries, between countries and between organizational size can help in increasing cross-validations of the results and can help identify context-specific dimensions that influence the effectiveness of GHRM. Future research could involve more in-depth analyses, for example using structural equation modelling, multi-group analysis, or longitudinal panel analysis, to gain more insights into the complex relationships of sustainability-related variables.

Contribution of Authors

All the authors participated in the ideation, development, and final approval of the manuscript, making significant contributions to the work reported.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this article.

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Informed Consent

Informed consent was obtained from all participants.

Data Availability

The datasets generated during and analysed during the current study are available from the corresponding author on reasonable request.

References

Agyabeng-Mensah, Y., Ahenkorah, E., Afum, E., Dacosta, E., & Tian, Z. (2022). Green knowledge sharing, green human resource management and environmental performance: The moderating role of green innovation capability. *Business Strategy and the Environment, 31*(3), 1268–1285. https://doi.org/10.1002/bse.2949

Ahmad, S. (2015). Green human resource management: Policies and practices. *Cogent Business & Management, 2*(1), Article 1030817. https://doi.org/10.1080/23311975.2015.1030817

Amjad, F., Abbas, W., Zia-Ur-Rehman, M., Baig, S. A., Hashim, M., Khan, H., & Rehman, Z. U. (2021). Effect of green human resource management practices on organizational sustainability: The mediating role of environmental and employee performance. *Environmental Science and Pollution Research, 28*(22), 28191–28206. https://doi.org/10.1007/s11356-020-11307-9

Arulrajah, A. A., Opatha, H. H. D. N. P., & Nawaratne, N. N. J. (2015). Green human resource management practices: A review. *Sri Lankan Journal of Human Resource Management, 5*(1), 1–16. https://doi.org/10.4038/sljhrm.v5i1.5624

Bombiak, E., & Marciniuk-Kluska, A. (2018). Green human resource management as a tool for the sustainable development of enterprises. *Sustainability, 10*(6), 1739. https://doi.org/10.3390/su10061739

Dumont, J., Shen, J., & Deng, X. (2017). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. *Human Resource Management, 56*(4), 613–627. https://doi.org/10.1002/hrm.21792

Guerci, M., Longoni, A., & Luzzini, D. (2016). Translating stakeholder pressures into environmental performance – The mediating role of green HRM practices. *The International Journal of Human Resource Management, 27*(2), 262–289. https://doi.org/10.1080/09585192.2015.1065431

Jabbour, C. J. C. (2013). Environmental training in organisations: From a literature review to a framework for future research. *Resources, Conservation and Recycling, 74*, 144–155. https://doi.org/10.1016/j.resconrec.2012.12.017

Jackson, S. E., Renwick, D. W. S., Jabbour, C. J. C., & Muller-Camen, M. (2011). State-of-the-art and future directions for green human resource management. *Zeitschrift für Personalforschung, 25*(2), 99–116. https://doi.org/10.1688/1862-0000_ZfP_2011_02_Jackson

Kim, Y. J., Kim, W. G., Choi, H. M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International Journal of Hospitality Management, 76*, 83–93. https://doi.org/10.1016/j.ijhm.2018.04.007

Luu, T. T. (2021). Green human resource practices and organizational citizenship behavior for the environment: The roles of collective green crafting and environmentally specific servant leadership. *Journal of Sustainable Tourism, 29*(2–3), 406–425. https://doi.org/10.1080/09669582.2020.1729165

Masri, H. A., & Jaaron, A. A. M. (2017). Assessing green human resources management practices in Palestinian manufacturing context: An empirical study. *Journal of Cleaner Production, 143*, 474–489. https://doi.org/10.1016/j.jclepro.2016.12.087

Mishra, P. (2017). Green human resource management: A framework for sustainable organizational development in an emerging economy. *International Journal of Organizational Analysis, 25*(5), 762–788. https://doi.org/10.1108/IJOA-11-2016-1079

Mousa, S. K., & Othman, M. (2020). The impact of green human resource management practices on sustainable performance in healthcare organizations: A conceptual framework. *Journal of Cleaner Production, 243*, Article 118595. https://doi.org/10.1016/j.jclepro.2019.118595

Nejati, M., Rabiei, S., & Jabbour, C. J. C. (2017). Envisioning the invisible: Understanding the synergy between green human resource management and green supply chain management. *Business Strategy and the Environment, 26*(8), 1102–1115. https://doi.org/10.1002/bse.1977

Paillé, P., Chen, Y., Boiral, O., & Jin, J. (2014). The impact of human resource management on environmental performance: An employee-level study. *Journal of Business Ethics, 121*(3), 451–466. https://doi.org/10.1007/s10551-013-1732-0

Pellegrini, C., Rizzi, F., & Frey, M. (2018). The role of sustainable human resource practices in influencing employee behavior for corporate sustainability. *Business Strategy and the Environment, 27*(8), 1221–1232. https://doi.org/10.1002/bse.2064

Pham, N. T., Tučková, Z., & Jabbour, C. J. C. (2019). Greening the hospitality industry: How do green human resource management practices influence organizational citizenship behavior in hotels? *Tourism Management, 72*, 386–399. https://doi.org/10.1016/j.tourman.2018.12.008

Pinzone, M., Guerci, M., Lettieri, E., & Redman, T. (2016). Progressing in the change journey towards sustainability in healthcare: The role of green HRM. *Journal of Cleaner Production, 122*, 201–211. https://doi.org/10.1016/j.jclepro.2016.02.031

Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. *International Journal of Management Reviews, 15*(1), 1–14. https://doi.org/10.1111/j.1468-2370.2011.00328.x

Roscoe, S., Subramanian, N., Jabbour, C. J. C., & Chong, T. (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development. *Business Strategy and the Environment, 28*(5), 737–749. https://doi.org/10.1002/bse.2277

Saeed, B. B., Afsar, B., Hafeez, S., Khan, I., Tahir, M., & Afridi, M. A. (2019). Promoting employee's pro-environmental behavior through green human resource management practices. *Corporate Social Responsibility and Environmental Management, 26*(2), 424–438. https://doi.org/10.1002/csr.1694

Tang, G., Chen, Y., Jiang, Y., Paillé, P., & Jia, J. (2018). Green human resource management practices: Scale development and validity. *Asia Pacific Journal of Human Resources, 56*(1), 31–55. https://doi.org/10.1111/1744-7941.12147

Yong, J. Y., Yusliza, M. Y., Fawehinmi, O., & Faezah, J. N. (2019). Nexus between green intellectual capital and green human resource management. *Journal of Cleaner Production, 215*, 364–374. https://doi.org/10.1016/j.jclepro.2019.01.082

Yong, J. Y., Yusliza, M. Y., Ramayah, T., Chiappetta Jabbour, C. J., Sehnem, S., & Mani, V. (2020). Pathways towards sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management. *Business Strategy and the Environment, 29*(1), 212–228. https://doi.org/10.1002/bse.2359