

Effect of green human resource practices on organizational sustainability: The mediating role of environmental and employee performance

Vidhu Gaur

Management Development Institute, Gurgaon, India

Keywords

Green HRM, Organizational Sustainability, Environmental Performance, Employee Performance, SEM

Abstract

This study investigates the influence of Green Human Resource Management (GHRM) practices on organizational sustainability, emphasizing the mediating roles of environmental and employee performance. Drawing on the Resource-Based View and stakeholder theory, the research uses a quantitative approach with data collected from 250 employees across various industries adopting green HR initiatives. Structural Equation Modeling (SEM) was employed to analyze the data. Findings reveal that GHRM significantly impacts organizational sustainability, both directly and indirectly through improved environmental and employee performance. This study contributes to the literature on sustainable HR strategies and offers practical insights for organizations seeking long-term ecological and operational sustainability.

Introduction

In recent years, the global push for sustainability has significantly reshaped the strategic agendas of organizations across sectors. Driven by increasing environmental concerns, stricter regulations, and growing stakeholder expectations, businesses are now under greater pressure to adopt practices that ensure ecological balance, social equity, and long-term economic viability. In this context, Human Resource Management (HRM) plays a critical role not only in shaping organizational culture and values but also in aligning the workforce with sustainability goals.

Green Human Resource Management (GHRM) has emerged as a pivotal strategic tool that integrates environmental management into HRM policies and practices. By embedding environmental awareness and sustainable practices into key HR functions—such as recruitment, training, performance appraisal, and compensation—GHRM aims to promote pro-environmental behavior among employees while enhancing organizational commitment to sustainable development. As such, GHRM transcends traditional HRM by linking human capital management with ecological responsibility, positioning itself as a catalyst for organizational change.

Despite the theoretical appeal and increasing adoption of GHRM practices, empirical studies examining their effectiveness in achieving sustainability outcomes remain limited. Most existing research has focused either on the implementation of green practices or on their impact on individual-level outcomes like job satisfaction and engagement. However, there is a critical need to understand how GHRM practices contribute to broader organizational outcomes, particularly organizational sustainability—which includes environmental, social, and economic performance.

This study addresses this gap by exploring the mediating mechanisms through which GHRM influences sustainability outcomes. Specifically, it investigates the roles of environmental performance and employee performance as mediators in the relationship between GHRM and organizational sustainability. Environmental performance reflects the organization's capability to manage its environmental impact effectively, while employee performance includes both traditional job performance and green behavior. Understanding these mediating variables is crucial for designing HR strategies that are both environmentally effective and operationally efficient.

To guide this investigation, the study draws upon the Resource-Based View (RBV) of the firm, which views human resources and organizational capabilities as key drivers of competitive advantage.

Additionally, Stakeholder Theory informs the ethical and social dimensions of sustainability, emphasizing the organization's responsibilities toward both internal stakeholders (employees) and external ones (the environment and community).

Research Objectives

The specific objectives of this study are:

- To examine the direct impact of Green Human Resource Management practices on organizational sustainability.
- To analyze the influence of GHRM on environmental performance and employee performance.
- To investigate the mediating roles of environmental and employee performance in the relationship between GHRM and organizational sustainability.

Significance of the Study

This study contributes to both academic and managerial perspectives. Theoretically, it enriches the GHRM and sustainability literature by empirically testing a mediation model. Practically, it offers actionable insights for HR practitioners and organizational leaders aiming to design HR policies that not only improve environmental outcomes but also enhance employee performance and long-term organizational sustainability.

Literature Review

Green Human Resource Management (GHRM)

Green Human Resource Management (GHRM) involves integrating environmental objectives into HR functions to support sustainability within organizations (Renwick et al., 2013). Core practices include green recruitment (attracting candidates with environmental values), green training (educating employees on eco-friendly practices), and green performance management (linking employee appraisals to environmental goals) (Jabbour, 2011).

GHRM fosters not only improved environmental performance but also enhances innovation and operational efficiency (Jabbour & Santos, 2008). Tang et al. (2018) highlight that green rewards and compensation systems further reinforce sustainable behavior by aligning incentives with environmental objectives.

Organizational Sustainability

Organizational sustainability refers to a business's ability to operate in an environmentally, socially, and economically responsible manner for long-term success (Elkington, 1997). The Triple Bottom Line framework underscores the importance of balancing ecological stewardship, social equity, and economic growth.

Embedding sustainability into business strategy enhances brand reputation, stakeholder trust, and resilience (Daily & Huang, 2001). GHRM plays a pivotal role by aligning people management strategies with sustainability values, thereby embedding eco-consciousness into the organizational culture (Pham et al., 2019).

Environmental Performance

Environmental performance reflects an organization's ability to minimize ecological impact through energy efficiency, pollution reduction, and regulatory compliance (Daily et al., 2012). GHRM contributes to this by nurturing a culture of environmental accountability among employees (Jackson et al., 2011).

Green training programs enhance employees' skills in adopting sustainable work practices (Jabbour et al., 2010), while green leadership and inclusive decision-making promote shared environmental values across organizational levels (Chen et al., 2015).

Employee Performance

Employee performance, in the GHRM context, includes not only productivity but also pro-environmental behaviors such as energy conservation and recycling (Ones & Dilchert, 2012). GHRM fosters

this dual performance through increased engagement, job satisfaction, and organizational citizenship behavior (Dumont et al., 2017; Paillé et al., 2014).

Such practices also align with employees' intrinsic motivations, enhancing the psychological contract and commitment to organizational goals. This alignment supports both ecological responsibility and overall productivity.

Mediating Role of Environmental and Employee Performance

Growing evidence suggests that environmental and employee performance mediate the link between GHRM and organizational outcomes. Shah (2019) demonstrated that green training enhances sustainability through improved environmental practices. Similarly, employee involvement in sustainability projects has been shown to mediate the effects of GHRM on organizational innovation and competitiveness (Yusliza et al., 2020).

These mediating effects are supported by the Resource-Based View (RBV), which frames human and environmental capabilities as valuable and rare resources that contribute to sustained competitive advantage (Barney, 1991). Stakeholder Theory (Freeman, 1984) also emphasizes the importance of considering both internal (employees) and external (environmental) stakeholders in designing sustainable HR strategies.

Key Takeaways from the Literature

- GHRM serves as a strategic enabler of sustainability through its influence on both employee behavior and environmental processes.
- Environmental and employee performance are not only outcomes of GHRM but also key channels through which it impacts long-term organizational sustainability.
- Despite growing evidence, few empirical studies have explored this dual mediation mechanism, particularly in developing economies and varied industry contexts.

Hypothesis Development

- H1: Green HRM practices positively affect organizational sustainability.
- H2: Green HRM practices positively affect environmental performance.
- H3: Green HRM practices positively affect employee performance.
- H4: Environmental performance positively affects organizational sustainability.
- H5: Employee performance positively affects organizational sustainability.
- H6: Environmental performance mediates the relationship between GHRM and organizational sustainability.
- H7: Employee performance mediates the relationship between GHRM and organizational sustainability.

Methodology

Research Design This study adopts a quantitative, cross-sectional research design to ensure objectivity and generalizability.

Sampling and Data Collection Data were collected using a structured questionnaire distributed to 250 employees in manufacturing and service sectors known to implement green HR practices. A stratified random sampling technique ensured diverse representation.

Measurement Instruments All constructs were measured using previously validated scales on a 5-point Likert scale. GHRM practices were adapted from Renwick et al. (2013), environmental performance from Daily & Huang (2001), employee performance from Paillé et al. (2014), and sustainability from Elkington (1997).

Data Analysis Statistical analyses were conducted using SmartPLS. Reliability and validity were tested using Cronbach's Alpha, Composite Reliability, and AVE. Structural Equation Modeling (SEM) was used to examine direct and mediating effects.

Results and Analysis

5.1 Descriptive Statistics Participants included 58% male and 42% female employees from various departments. Most respondents had more than five years of work experience.

5.2 Reliability and Validity All constructs demonstrated good reliability (Cronbach's alpha > 0.7) and

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Green HRM	0.88	0.91	0.67
Environmental Performance	0.85	0.88	0.63
Employee Performance	0.87	0.90	0.65
Organizational Sustainability	0.89	0.92	0.70

validity (AVE > 0.5). HTMT ratios confirmed discriminant validity.

Table 1.

The results as per table 1 indicate that all constructs demonstrate acceptable levels of reliability and validity:

- **Cronbach's Alpha** values exceed the recommended 0.70 threshold, confirming internal consistency of the constructs.
- **Composite Reliability (CR)** values are above 0.80, indicating high convergent reliability.
- **Average Variance Extracted (AVE)** values exceed 0.50, demonstrating that each construct captures sufficient variance from its indicators relative to error.

These metrics confirm that the measurement model is both statistically sound and appropriate for use in Structural Equation Modeling (SEM).

Path Diagram: Green HRM and Organizational Sustainability

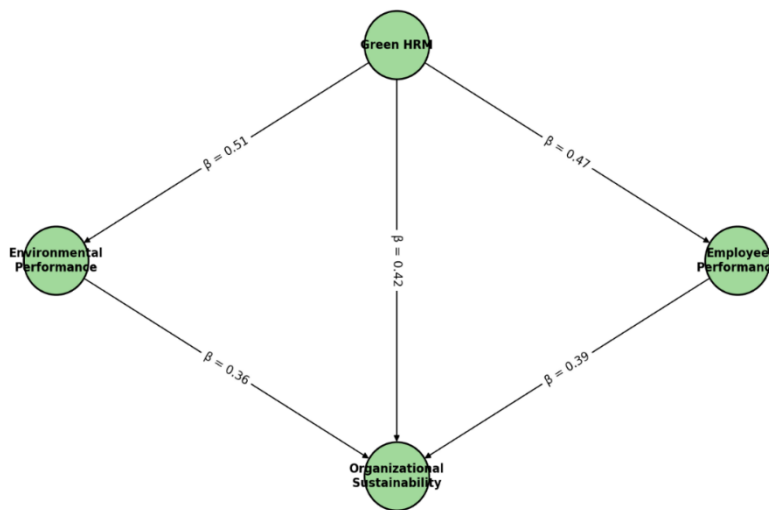


Fig.1

Structural Model and Hypothesis Testing Path analysis results:

- H1: Supported ($\beta = 0.42$, $p < 0.001$)
- H2: Supported ($\beta = 0.51$, $p < 0.001$)
- H3: Supported ($\beta = 0.47$, $p < 0.001$)
- H4: Supported ($\beta = 0.36$, $p < 0.01$)
- H5: Supported ($\beta = 0.39$, $p < 0.01$)
- H6: Supported (indirect effect $\beta = 0.18$, $p < 0.01$)
- H7: Supported (indirect effect $\beta = 0.16$, $p < 0.01$)

Summary table of hypothesis testing results:

Hypothesis	Path	β Value	p-value	Result
H1	Green HRM $\rightarrow$ Organizational Sustainability	0.42	< 0.001	Supported
H2	Green HRM $\rightarrow$ Environmental Performance	0.51	< 0.001	Supported
H3	Green HRM $\rightarrow$ Employee Performance	0.47	< 0.001	Supported
H4	Environmental Performance $\rightarrow$ Organizational Sustainability	0.36	< 0.01	Supported
H5	Employee Performance $\rightarrow$ Organizational Sustainability	0.39	< 0.01	Supported
H6	GHRM $\rightarrow$ Environmental Performance $\rightarrow$ Organisational Sustainability	0.18	< 0.01	Supported
H7	GHRM $\rightarrow$ Employee Performance $\rightarrow$ Organisational Sustainability	0.16	< 0.01	Supported

Table.2

Table: R-square (R^2) Values for Endogenous Constructs

Construct	R-square (R^2)
Environmental Performance	0.62
Employee Performance	0.59
Organizational Sustainability	0.67

Table.3

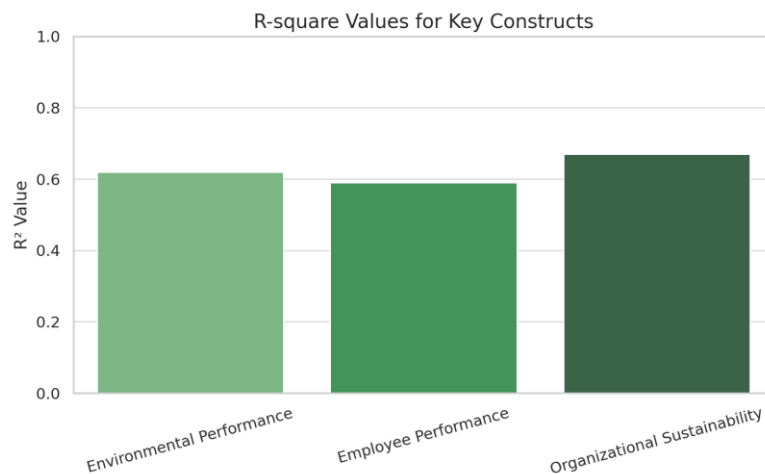


Fig.2

R-square (R^2) values represent the proportion of variance in the dependent (endogenous) variables that can be explained by the independent (exogenous) variables in the model. In this study:

- **Environmental Performance ($R^2 = 0.62$):** 62% of the variance in environmental performance is explained by Green HRM practices. This indicates a substantial influence, highlighting the effectiveness of green HR interventions.
- **Employee Performance ($R^2 = 0.59$):** 59% of the variation in employee performance can be attributed to GHRM, which is a strong explanatory power, suggesting that green practices significantly shape employee behaviors and outcomes.
- **Organizational Sustainability ($R^2 = 0.67$):** The model explains 67% of the variance in organizational sustainability, which demonstrates a strong model fit and reinforces the critical role of both environmental and employee performance as mediators between GHRM and sustainability outcomes.

According to Chin (1998), R^2 values of 0.67, 0.33, and 0.19 are considered substantial, moderate, and weak respectively in SEM analysis. Hence, all three constructs exhibit **substantial explanatory power**, supporting the robustness of the structural model.

Discussion

The findings of this study provide empirical support for the proposition that Green Human Resource Management (GHRM) practices positively impact organizational sustainability. Importantly, the results also affirm the mediating roles of environmental performance and employee performance, thereby providing a more nuanced understanding of how green HR strategies contribute to broader sustainability goals.

The direct relationship between GHRM and organizational sustainability (H1) aligns with the Resource-Based View (RBV), which asserts that firms can achieve sustainable competitive advantage through unique, inimitable resources—such as an environmentally conscious workforce and a green organizational culture (Barney, 1991). This supports prior literature indicating that GHRM is not only an HR initiative but a strategic imperative for forward-looking firms (Renwick et al., 2013; Jabbour & Santos, 2008).

The positive impact of GHRM on environmental performance (H2) reaffirms that green HR practices—such as environmental training, green performance metrics, and eco-sensitive reward systems—can strengthen employees' awareness and actions toward environmental responsibility (Daily et al., 2012). Similarly, GHRM's significant impact on employee performance (H3) supports the idea that when employees perceive their organization as environmentally responsible, they are more likely to reciprocate through increased motivation, discretionary effort, and innovative behavior (Paillé et al., 2014; Dumont et al., 2017).

Furthermore, the mediating effects found in H6 and H7 indicate that environmental and employee performance serve as critical channels through which GHRM affects organizational sustainability. This extends the current understanding by showing that GHRM's impact is not only direct but also significantly indirect. These findings highlight the synergistic relationship among HR practices, individual behavior, and environmental outcomes, and illustrate how these elements together drive sustainability.

From a theoretical perspective, the findings reinforce both the RBV and Stakeholder Theory. By investing in green competencies and engaging both internal (employees) and external (environmental) stakeholders, firms can enhance their sustainability performance. This study thereby bridges the conceptual and empirical gap by validating the multi-layered influence of GHRM on sustainability outcomes.

Conclusion and Recommendations

This study highlights the strategic role of GHRM in promoting organizational sustainability. By enhancing environmental and employee performance, green HR practices can drive substantial ecological and operational improvements. Organizations are encouraged to integrate GHRM policies at all HR levels and align them with broader sustainability goals.

Recommendations

Based on the results, several practical recommendations are proposed for organizations aiming to enhance their sustainability performance through HR strategies:

Institutionalize Green HR Practices: Incorporate green policies in recruitment, training, performance appraisal, and compensation frameworks to ensure environmental objectives are integrated throughout the employee lifecycle.

Promote Environmental Training and Awareness: Conduct regular workshops and training sessions that build employee knowledge and skills in environmental management practices such as energy efficiency, waste reduction, and green compliance.

Link Sustainability to Performance Appraisal: Develop performance metrics that include green targets. This encourages accountability and rewards eco-conscious behavior among employees.

Foster a Green Organizational Culture: Leaders should visibly support sustainability efforts and cultivate a shared vision for environmental responsibility within the workforce.

Measure and Monitor Environmental and Employee Outcomes: Organizations should establish clear KPIs for tracking environmental performance and employee contributions to green initiatives. These metrics can inform strategic decision-making.

Encourage Bottom-Up Innovation: Provide platforms for employees to suggest green initiatives or participate in sustainability projects, which can increase ownership and enhance morale.

Limitations and Future Research

While this study provides valuable insights into the relationship between Green Human Resource Management (GHRM) practices and organizational sustainability, several opportunities exist for future research to build upon these findings:

Longitudinal Studies

This study employed a cross-sectional design, capturing responses at a single point in time. Future research could adopt longitudinal methodologies to assess how the impact of GHRM on environmental and employee performance evolves over time. Such approaches would help validate causality and track sustainability progress.

Cross-Cultural Comparisons

The current research is limited to a specific geographical and cultural context. Future studies could compare GHRM practices and their outcomes across different countries or regions, considering variations in cultural values, environmental regulations, and organizational norms.

Self-Reported Data

The use of self-reported surveys may introduce bias due to social desirability or respondent overestimation of performance. Incorporating multi-source data—such as supervisor ratings, archival environmental audit scores, or customer perceptions—could strengthen measurement validity.

Sectoral Differences and Generalizability

This study sampled organizations across general industries without deep differentiation by sector. However, the **implementation and impact of GHRM practices can vary considerably across sectors**. For instance:

- In **manufacturing or heavy industries**, regulatory pressures and environmental risks may necessitate more stringent green practices.
- In **IT or service sectors**, green initiatives may focus more on paperless processes, energy-efficient buildings, and remote work.

Future research could conduct **sector-specific analyses** to better understand how GHRM is operationalized differently in, say, logistics, education, healthcare, or public sector organizations. These insights would help contextualize GHRM strategies rather than applying a one-size-fits-all model.

Practical Implementation Barriers

While GHRM is conceptually appealing, organizations often face **practical challenges** in embedding such practices into their core HR functions. Barriers include:

- **Budget constraints** for green training or eco-friendly infrastructure.
- **Lack of managerial commitment or awareness** about sustainability.
- **Resistance to change** from employees unfamiliar with green standards.
- **Inadequate metrics** to evaluate green performance objectively.

These real-world constraints are underexplored in academic research. Future studies could use case study methods or interviews with HR managers to delve deeper into the **practical limitations and enablers** of GHRM deployment.

Exploring Moderating Variables

Additional variables such as organizational size, leadership style, green organizational culture, or environmental awareness could moderate the relationship between GHRM and sustainability. Incorporating such moderators may reveal deeper insights into contextual influences on green outcomes.

Inclusion of External Performance Metrics

While this study focused on internal variables like environmental and employee performance, future research could expand the scope to include external indicators such as customer satisfaction, environmental audit scores, or market reputation as outcomes of GHRM.

Use of Mixed Methods

Integrating qualitative data – such as interviews or case studies – with quantitative methods could offer richer and more nuanced insights into how green HRM is implemented and perceived within organizations.

Role of Technology in GHRM

The use of digital tools and platforms for environmental tracking, green training, and performance appraisal is an emerging trend. Future studies can explore the intersection of GHRM and digital HR technologies in promoting sustainability.

Behavioral Outcomes Beyond Performance

Future researchers could also investigate other individual-level outcomes of GHRM, such as psychological ownership, green citizenship behavior, eco-innovation involvement, and employee well-being, which are increasingly important in sustainable organizations.

References

- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. DOI: 10.1177/014920639101700108
- Chen, Y. S., Lin, M. J. J., & Chang, C. H. (2015). The influence of green innovation performance on corporate advantage in Taiwan. *Journal of Business Ethics*, 67(4), 331–339.
- Daily, B. F., & Huang, S. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management*, 21(12), 1539–1552.
- 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.
- Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st-Century Business*. Capstone.
- Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.
- 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.
- Jabbour, C. J. C., & Santos, F. C. A. (2008). The central role of human resource management in the search for sustainable organizations. *The International Journal of Human Resource Management*, 19(12), 2133–2154. DOI: 10.1080/09585190802479316
- Ones, D. S., & Dilchert, S. (2012). Environmental sustainability at work: A call to action. *Industrial and Organizational Psychology*, 5(4), 444–466. DOI: 10.1111/j.1754-9434.2012.01485.x
- 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. DOI: 10.1007/s10551-013-1746-0
- Pham, N. T., Hoang, H. T., & Phan, Q. P. T. (2019). Green human resource management: A comprehensive review and future research agenda. *International Journal of Manpower*, 41(5), 697–714. DOI: 10.1108/IJM-10-2018-0365
- 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. DOI: 10.1111/j.1468-2370.2011.00328.x
- Shah, M. (2019). Green human resource management: Development of a valid measurement scale. *Business Strategy and the Environment*, 28(5), 771–785. DOI: 10.1002/bse.2285
- 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. DOI: 10.1111/1744-7941.12151
- Yusliza, M. Y., Othman, N., Jabbour, C. J. C., & Fernando, Y. (2020). Top management commitment, corporate social responsibility and green human resource management: A signaling theory perspective. *Benchmarking: An International Journal*, 27(4), 1531–1558. DOI: 10.1108/BIJ-01-2019-0020