



# Strategic Green Human Resource Management for Sustainable Transformation: Advancing Sustainable Development Goals through Innovation driven Workforce Practices

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## ARTICLE INFO

### Article history:

Received 18 November 2025

Received in revised form 16 December 2025

Accepted 19 December 2025

Available online 27 December 2025

### Keywords:

Green Human Resource Management; Green Innovation; Sustainable Performance; Green Hiring; Green Training and Involvement; Green Performance Management; Sustainability; Employee Engagement; Organizational Development; United Nations Sustainable Goals

## ABSTRACT

In today's global landscape, organizations face increasing pressure to align their strategies with the United Nations Sustainable Development Goals by promoting environmental responsibility, social equity, and sustainable economic growth. Green Human Resource Management plays a vital role in this transition by integrating sustainability principles into core HR functions. This conceptual study explores how Green Hiring, Green Training and Involvement, and Green Performance Management serve as catalysts for sustainable organizational performance through the mediating effect of Green Innovation. Based on existing literature, the study emphasizes how these practices foster environmentally conscious employees, strengthen a culture of innovation, and boost long-term organizational resilience. It also shows that GHRM directly supports the United Nations Sustainable Development Goals (UN-SDGs), especially SDG 8, which focuses on decent work and economic growth; SDG 12, which encourages responsible consumption and production; and SDG 13, which calls for urgent climate action—by cultivating sustainable work environments, environmentally responsible practices, and innovation-driven growth. By aligning HR policies with global sustainability frameworks, organizations can enhance accountability, increase employee engagement, and contribute significantly to the broader sustainability efforts.

## 1. Introduction

In recent years, the growing urgency of environmental degradation and social inequality has pushed organizations to adopt more sustainable business models. Sustainability is no longer limited to environmental concerns but extends to the broader aspects of organizational behavior, strategy, and governance. Within this changing context, Human Resource Management (HRM) plays a vital role in aligning people's strategies with sustainability objectives, leading to the rise of Green Human Resource Management (GHRM).

A study conducted by *Renwick et al.*, [16] explained that Green HRM integrates environmental and social responsibility into HR practices such as recruitment, training, performance management,

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DOI: <https://doi.org/10.59543/ijsdg.v1i1.16539>

and employee engagement. It focuses on creating policies and processes that not only improve operational efficiency but also contribute to ecological well-being and social equity. Similarly, *Jabbour and Santos* [9] emphasized that when HR functions are designed with a sustainability lens, they help build responsible workplace cultures, strengthen employer branding, and support long-term organizational growth. Research by *Jabbour and Santos* [9] and *Tang et al.*, [17] demonstrated that GHRM enhances both employee engagement and innovative capacity while promoting ethical and environmentally responsible practices. However, studies such as those by *Ehnert et al.*, [7] and *Zaid et al.*, [19] noted that many organizations still struggle to integrate sustainability into their HR processes in a consistent and measurable way. This limits the ability of green initiatives to create lasting behavioral and performance outcomes among employees.

The purpose of this conceptual study is to explore how GHRM practices specifically Green Hiring, Green Training and Development, and Green Performance Management can drive sustainable performance through Green Innovation as a mediating factor. The framework is developed using existing research and literature that highlights the connection between HR practices and sustainability outcomes.

This study aims to address existing research gaps by proposing a conceptual model that links bundles of GHRM practices to sustainable performance outcomes through innovation. Drawing from works such as those of *Renwick et al.*, [16], *Jabbour and Santos* [9], and *Pham et al.*, [15], the framework contributes both theoretical and practical insights. It provides HR professionals with structured guidance on embedding sustainability principles into people management strategies, fostering innovation, and enhancing long-term organizational competitiveness while promoting environmental and social well-being.

## **1.1 Building a Sustainable HR Foundation**

### **1.1.1 Understanding the Green HRM Paradigm:**

Green Human Resource Management (GHRM) refers to the alignment of HR practices with environmental sustainability goals. A study conducted by *Renwick et al.*, [16] described GHRM as the integration of ecological objectives into traditional HR functions such as recruitment, training, performance management, and rewards. Their research highlighted that when HR systems are designed to promote environmental consciousness, organizations experience improved employee participation in sustainability initiatives and greater accountability toward ecological outcomes.

### **1.1.2 Strategic Relevance in the Modern Workplace:**

GHRM is not merely a passing trend but a strategic necessity for modern organizations was emphasized in research conducted by *Jabbour and Santos* [9]. They explained that as climate change, stakeholder expectations, and regulatory pressures intensify, HR professionals are uniquely positioned to influence behavior change and embed sustainability into the organizational culture. By integrating green values into people management strategies, HR departments can strengthen employee commitment, foster innovation, and ensure that sustainability becomes part of the organization's core identity.

**Table 1**

The adoption levels of Green HRM practices across five cores  
HR functions (Jabbour & Santos [9])

HR Function	Adoption Rate (%)
Recruitment	65%

Training & Development	78%
Performance Appraisal	52%
Compensation & Rewards	45%
Employee Engagement	60%

### 1.1.3 Early Adoption and Industry Trends

A study conducted by *Tang et al.*, [17] found that industries such as manufacturing and information technology have been early adopters of Green Human Resource Management (GHRM) practices. Their research also noted that organizations leading in sustainability often combine GHRM initiatives with innovation-driven strategies, resulting in improved environmental performance and stronger organizational reputation.

## 1.2. Theoretical Perspectives on GHRM Implementation

### 1.2.1 Policy-Level Integration

A study conducted by *Pham et al.*, [15] highlighted that organizations are increasingly embedding environmental goals within their HR policies. Their findings revealed that job descriptions now often include eco-awareness as competency, while compensation systems are being redesigned to reward employees for adopting environmentally responsible behaviors. This study also emphasized that this policy-level integration reflects a growing understanding that sustainability is not an isolated initiative but a core business objective influencing employee motivation and organizational reputation.

### 1.2.2 Employee Engagement and Training

Research by *Mehta and Chugan* [13] showed that green training initiatives significantly enhance employee awareness and encourage pro-environmental behavior at the workplace. Their study explained how methods such as workshops, gamified learning modules, and CSR engagement activities foster a stronger green mindset among employees. This study also suggested that sustained engagement through continuous learning programs plays a vital role in embedding sustainability as a daily practice rather than a one-time effort.

### 1.2.3 Challenges in Implementation

The study of *Mandip* [12] pointed out that despite the growing enthusiasm toward sustainability, the implementation of Green HRM often faces obstacles. His research identified cost constraints, employee resistance to change, and lack of leadership support as the primary barriers hindering adoption. The study also observed that small and medium-sized enterprises struggle more due to limited financial and technical resources, which restricts their ability to fully integrate GHRM practices into business operations.

## 1.3. Challenges and Opportunities in Applying GHRM

### 1.3.1 Disconnect Between Policy and Practice

The research conducted by *Delmas and Burbano* [5] revealed that while many firms publicly commit to sustainability, they often fail to integrate these values into their HR functions, leading to a phenomenon known as greenwashing. Their analysis showed that without consistent execution, sustainability initiatives lose authenticity and fail to drive meaningful behavioral change and also emphasized the need for transparent communication and measurable goals to prevent superficial commitments.

### 1.3.2 The Missing Link: Measurable Outcomes

A study by *Zaid et al.*, [19] identified a critical gap in existing research related to the quantifiable impact of Green HRM. They argued that while organizations report increased awareness and engagement, empirical evidence linking GHRM to measurable outcomes such as employee retention, satisfaction, and sustainability KPIs remains limited. The study suggested that future studies should focus on building strong evaluation metrics to validate the long-term business value of GHRM.

### 1.3.3 Role of Innovation and Culture

According to *Chen and Chang* [2], fostering a culture of innovation significantly amplifies the effects of GHRM. Their study found that organizations encouraging employee-driven green ideas and cross-functional collaboration experience higher levels of creativity and environmental performance. It further emphasized that green innovation acts as a bridge between HR practices and sustainability outcomes, making it a critical mediator in achieving strategic environmental goals.

## 2. Literature Review

### 2.1 Evolution of Green HRM

Over the years, research on Green Human Resource Management (GHRM) has evolved from conceptual discussions to evidence-based insights that link HR practices with organizational sustainability. *Renwick et al.* [16] explained that GHRM has matured into a structured approach that embeds environmental values across HR functions. Building on this, *Mandip* [12] highlighted that HR professionals influence not only compliance but also culture-building, encouraging employees to adopt sustainable habits. *Jabbour and Santos* [9] further emphasized the transformation of GHRM from an optional initiative to a strategic driver of long-term competitiveness. Collectively, these studies illustrate the theoretical progression of GHRM from idea to actionable framework.

### 2.2 Core GHRM Practices Across HR Functions

*Tang et al.* [17] found that environmentally responsible recruitment strategies help organizations attract employees whose personal values align with sustainability goals. *Mehta and Chugan* [13] and *Pham et al.* [15] demonstrated that continuous green training enhances awareness and motivates employees to engage in pro-environmental behaviors. Similarly, *Paillé et al.* [14] and *Dumont et al.* [6] established that linking environmental goals with performance appraisal and rewards fosters accountability and reinforces green behavior. These studies collectively show that combining multiple green HR practices leads to stronger organizational and environmental outcomes.

### 2.3 Green HRM and Employee Behavior

The research has consistently shown that GHRM positively influences employee attitudes and eco-behavior. *Paillé et al.* [14] found that HR practices promoting sustainability encourage voluntary

pro-environmental actions. *Dumont et al.* [6] observed that employees in organizations practicing GHRM exhibit higher commitment to sustainability-related initiatives. *Pham et al.* [15] supported this view, noting that employee engagement deepens when individuals identify personally with environmental goals. Together, these studies demonstrate that GHRM shapes both mindset and behavior, contributing to an environmentally conscious workforce.

#### **2.4 Green Innovation as a Mediating Variable**

The recent research highlights the mediating role of green innovation between HR practices and organizational performance. *Chen and Chang* [2] reported that green-oriented HR policies stimulate creative problem-solving and eco-innovation. *Ahmad* [1] observed that GHRM fosters an enabling environment where employees are encouraged to develop sustainable solutions. *Laisoka et al.* [11] confirmed this relationship within manufacturing SMEs, showing that green HR strategies enhance competitiveness through innovation. Thus, GHRM serves as a foundation for innovation-driven sustainability.

#### **2.5 Challenges and Gaps in Implementation**

Despite theoretical and practical progress, several challenges remain. *Delmas and Burbano* [5] discussed the prevalence of greenwashing, where organizations overstate sustainability commitments. *Yong et al.* [18] identified inconsistencies in measuring GHRM outcomes and limited cross-industry validation. *Zaid et al.* [19] pointed out the scarcity of quantifiable evidence linking GHRM practices to metrics such as employee satisfaction or retention. These findings underline the need for longitudinal and comparative studies to develop standardized frameworks for evaluating GHRM effectiveness.

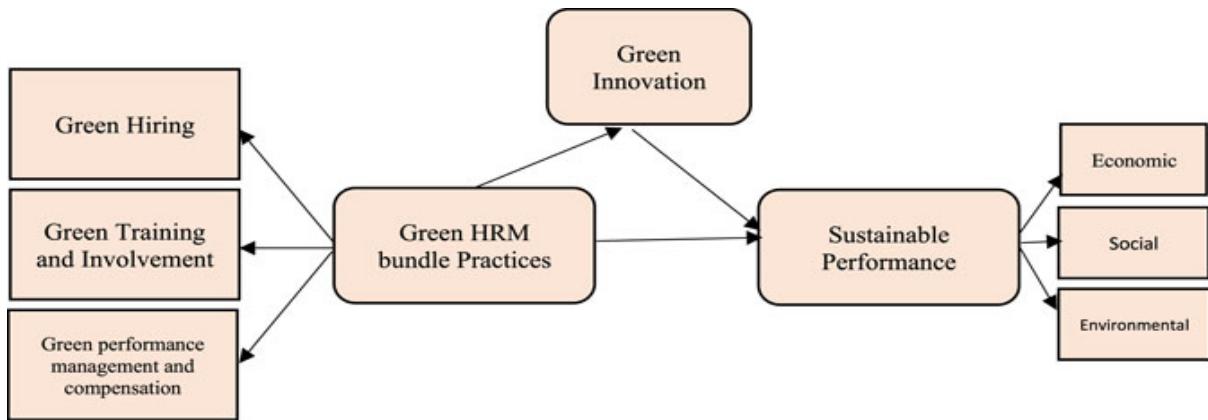
#### **2.6 Theoretical Gap**

Overall, existing literature positions GHRM as a critical enabler of sustainable organizational performance. Conceptual synthesis of all the studies reviewed collectively indicates that integrated GHRM practices yield greater environmental and cultural transformation. However, empirical validation remains limited, and contextual influences are underexplored. These gaps form the foundation for this study's conceptual framework, aiming to link HR strategies with innovation and measurable sustainability outcomes.

### **3. Frameworks and Discussion**

#### **3.1 Conceptual Framework**

The conceptual framework proposed in this study illustrates the linkage between Green Human Resource Management (GHRM) practices, Green Innovation, and Sustainable Performance (Fig 1). GHRM is conceptualized as a combination of practices such as Green Hiring, Green Training and Involvement, and Green Performance Management and Compensation, which collectively influence employee behavior and organizational outcomes. According to *Renwick et al.* [16], the integration of HR practices into sustainability agendas enhances employees' environmental consciousness and organizational commitment.



**Fig. 1.** Conceptual Framework linking GHRM, Green Innovation, and Sustainable Performance

- Green Hiring ensures that recruitment processes attract candidates who align with the organization's environmental goals. Green Training and Involvement equip employees with the necessary skills, awareness, and motivation to engage in environmentally responsible behavior. Green Performance Management and Compensation align evaluation and reward systems with sustainability objectives, reinforcing long-term eco-conscious behavior.
- Green Innovation is positioned as a mediating variable that converts HR-driven sustainability practices into measurable outcomes. As suggested by *Chen and Chang* [2], innovation serves as a crucial bridge between internal HR processes and external sustainability performance.
- Together, these practices foster a culture of innovation and accountability, driving sustainable outcomes across environmental, social, and economic dimensions.

### **3.2 Descriptive framework**

#### **3.2.1 Influence of Green Hiring on Green Innovation**

Green recruitment practices influence innovation by ensuring that individuals with sustainability awareness and environmental commitment enter the workforce. Studies such as those by *Jabbour and Santos* [9] highlight that employees who possess green values contribute proactively to environmental initiatives, fostering innovative solutions for sustainability challenges.

#### **3.2.2 Influence of Green Training and Involvement on Green Innovation**

Training and participatory initiatives create a fertile ground for innovation by enhancing eco-knowledge and engagement. *Mehta and Chugan* [13] found that green training increases both individual and collective responsibility toward environmental goals. Similarly, *Tang et al.* [17] emphasized that employee involvement in sustainability projects stimulates creative problem-solving and promotes innovation through experiential learning.

#### **3.2.3 Influence of Green Performance Management and Compensation on Green Innovation**

When sustainability metrics are embedded into appraisal systems, employees are motivated to develop creative strategies to achieve environmental goals. *Renwick et al.* [16] observed that reward structures linked to green outcomes encourage experimentation and continuous improvement, thereby strengthening organizational innovation capacity.

### **3.2.4 Direct Impact of GHRM Practices on Sustainable Performance**

GHRM practices directly enhance sustainable performance by improving environmental efficiency, social well-being, and economic productivity. According to *Zaid et al.* [19], organizations that integrate GHRM practices into their business models report tangible benefits such as energy savings, waste reduction, and enhanced corporate reputation. *Pham et al.* [15] also noted that sustainability-oriented HR systems positively influence employee satisfaction and retention, contributing to long-term organizational resilience.

### **3.2.5 Mediating Role of Green Innovation**

Green Innovation functions as an intermediary between GHRM practices and sustainable performance. As indicated by *Chen and Chang* [2], HR initiatives alone cannot guarantee sustainability results; innovation serves as the key driver that converts green intentions into tangible outcomes. Employees empowered through green HR practices often generate new methods, products, or services that minimize environmental impact while improving efficiency.

- Environmental Innovation: Adoption of eco-friendly production processes and renewable energy use.
- Social Innovation: Initiatives enhancing employee welfare, community engagement, and social responsibility.
- Economic Innovation: Achieving cost efficiency and competitive advantage through sustainability-oriented innovation.

## **3.3 Theoretical Implications**

Integrates Green Innovation as a mediating mechanism within GHRM frameworks, explaining the pathway from HR practices to sustainability performance. Supports the “bundled” approach to GHRM, emphasizing that the combined effect of practices yields greater sustainability impact than isolated initiatives.

## **3.4 Managerial Implications**

HR professionals should embed environmental objectives within recruitment, training, and performance management systems to promote sustainable innovation. Encouraging innovation through recognition and rewards fosters long-term green commitment among employees. Systematic measurement of GHRM outcomes ensures genuine environmental progress and reduces the risk of greenwashing.

## **3.5 Future Research Directions**

- Empirical testing using surveys or case studies across multiple sectors and geographies.
- Examining moderate factors such as organizational culture, leadership commitment, and regulatory pressures.
- Exploring the influence of emerging technologies like AI, IoT, and Industry 4.0 on GHRM effectiveness and green innovation.
- Conducting longitudinal studies to assess the long-term impact of GHRM on sustainability outcomes [20].

## **3.6 Limitations**

- The framework is conceptual and lacks empirical validation.
- It does not account for contextual factors such as industry type, organizational size, or country-specific regulations.
- Employee behaviors and organizational culture nuances may vary in practice, affecting the model's applicability.

#### 4. Conclusion

This study demonstrates that Green Human Resource Management (GHRM) practices such as Green Hiring, Green Training and Involvement, and Green Performance Management and Compensation which collectively foster eco-conscious employee behaviors and drive innovative solutions. Green Innovation serves as a key mechanism, translating these HR initiatives into measurable environmental, social, and economic outcomes. The findings indicate that a bundled approach to GHRM is more effective than isolated practices in enhancing sustainable performance. These insights address the research objective by showing that strategic alignment of HR practices with sustainability goals can strengthen both organizational innovation and long-term competitiveness. The study further reinforces that such alignment contributes to broader sustainability priorities reflected in global goals, particularly decent work and economic growth, responsible production, and climate action. By embedding sustainability into HR systems and promoting innovation, organizations can achieve meaningful long-term progress while advancing both environmental and organizational objectives.

#### Author Contributions

Conceptualization, I. and G.; framework development and methodology, I.; writing- original draft, I.; writing- review and editing, G.; visualization, G.; supervision and project administration, I. All authors have read and agreed to the published version of the manuscript.

#### Funding

This research received no external funding.

#### Data Availability Statement

This study is entirely conceptual and did not involve the generation or analysis of datasets. Therefore, no data is associated with this article.

#### Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

#### Acknowledgement

This research was not funded by any grant. The authors sincerely thank each other for their collaboration and constructive feedback in developing this conceptual study.

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