

## THE ROLE OF GREEN HUMAN RESOURCE MANAGEMENT IN IMPROVING ENVIRONMENTAL PERFORMANCE

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### **Abstract:**

This research analyzes the impact of Green Human Resource Management (Green HRM) on the company's environmental performance, focusing on reducing emissions, improving energy efficiency, and managing resources more sustainably. This research uses a qualitative descriptive method with a literature review approach and secondary data analysis to analyze the impact of Green HRM on corporate environmental performance. The findings show that Green HRM not only improves environmental sustainability but also reduces operational costs. Its effectiveness is influenced by contextual factors such as industry, corporate culture, and geographic location. Practical implications include the integration of environmental performance in employee evaluations, continuous training, and green compensation policies. This study also highlights the importance of tailoring Green HRM strategies to an organization's specific context and suggests further research to explore the interaction between Green HRM and green technology innovation.

**Keywords:** *Green Human Resource Management (Green HRM), Environmental Performance, Role, Corporate Sustainability*

### **Introduction**

In the modern business world, the importance of sustainability and environmental awareness is increasing. Companies are becoming increasingly responsible for their environmental impact, whether from the perspective of customers, governments or society at large<sup>1,2</sup>. This global push towards sustainability has prompted companies to review their operations, with the aim of minimizing their environmental footprint while increasing their competitive advantage<sup>3</sup>. In this context, Green Human Resource Management (Green HRM) has emerged as a strategic approach that integrates environmental management into human resource practices. In other words, Green HRM is the use of HR policies and practices to promote the sustainable use of resources in organizations. These activities include efforts such as green recruitment, green training and development, green performance management, and green compensation<sup>4, 5</sup>. Through the incorporation of environmental considerations into HR practices,

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<sup>1</sup> A. Gill, B. Ahmad, and S. Kazmi, "The effect of green human resource management on environmental performance: The mediating role of employee eco-friendly behavior," *Manag. Sci. Lett.*, 2021.

<sup>2</sup> A. Longoni, D. Luzzini, and M. Guerri, "Deploying environmental management across functions: the relationship between green human resource management and green supply chain management," *J. Bus. Ethics*, 2018, doi: 10.1007/s10551-016-3228-1.

<sup>3</sup> Saeed, F. Rasheed, M. Waseem, and ..., "Green human resource management and environmental performance: the role of green supply chain management practices," ... *An Int. J.*, 2022, doi: 10.1108/BIJ-05-2021-0297.

<sup>4</sup> A. A. Zaid, A. A. M. Jaaron, and A. T. Bon, "The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study," *J. Clean. Prod.*, 2018.

<sup>5</sup> A. E. E. Sobaih, A. Hasanein, and I. Elshaer, "Influences of green human resources management on environmental performance in small lodging enterprises: The role of green innovation," *Sustainability*. mdpi.com, 2020.

organizations can align their human resources with broader sustainability goals. This integration not only supports environmental sustainability but also contributes to the long-term performance and success of the organization.

The strategic role of Green HRM in supporting corporate sustainability is increasingly recognized in both academic literature and organizational practice. Research in this area shows the potential of Green HRM in driving organizational change towards sustainability, reducing environmental impacts, and improving organizational performance. Despite its great potential, the implementation of Green HRM is not free from challenges. Organizations have to face various barriers such as resistance to change, lack of awareness, and the need for new skills and competencies among employees<sup>6, 7</sup>. The development of Green HRM in academic literature is characterized by an increased focus on the relationship between HRM practices and environmental performance<sup>8 9</sup>. Early studies focused more on the role of HRM in supporting traditional business objectives such as profitability and competitiveness<sup>10 11 12</sup>. However, as the importance of sustainability increased, researchers began to explore how HRM can contribute to environmental goals. This has given rise to Green HRM as a distinct field of study, with a growing body of literature examining its various dimensions and implications for organizations.

In organizational practice, Green HRM is still at an early stage of adoption. While some organizations have made significant progress in integrating environmental considerations into their HR practices, many are still grappling with implementation challenges<sup>13</sup>. The success of Green HRM depends on a variety of factors, including organizational culture, leadership commitment, and the ability to align HRM practices with environmental goals. As pressure increases for organizations to improve their environmental performance, the role of Green HRM is likely to become increasingly important.

In recent years, research on the role of Green Human Resource Management (GHRM) in improving environmental performance has seen significant development. However, there are some gaps that still need to be addressed to deepen our understanding of this topic. One of the main gaps is the lack of industry-specific research. While many studies have addressed the impact of GHRM on environmental performance in general, more in-depth and specialized

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<sup>6</sup> E. Esen and A. O. Caliskan, "Green human resource management (GHRM) and environmental sustainability," *PressAcademia Procedia*. dergipark.org.tr, 2019.

<sup>7</sup> F. Amjad, W. Abbas, M. Zia-Ur-Rehman, S. A. Baig, and ..., "Effect of green human resource management practices on organizational sustainability: the mediating role of environmental and employee performance," *Environ. Sci. ...*, 2021, doi: 10.1007/s11356-020-11307-9.

<sup>8</sup> H. Lee, "The role of environmental uncertainty, green HRM and green SCM in influencing organizations energy efficacy and environmental performance," *International Journal of Energy Economics and Policy*. zbw.eu, 2020.

<sup>9</sup> F. G. Gilal, Z. Ashraf, N. G. Gilal, R. G. Gilal, and ..., "Promoting environmental performance through green human resource management practices in higher education institutions: A moderated mediation model," *... Soc. Responsib. ...*, 2019, doi: 10.1002/csr.1835.

<sup>10</sup> I. A. Elshaer, A. E. E. Sobaih, M. Aliedan, and A. M. S. Azazz, "The effect of green human resource management on environmental performance in small tourism enterprises: Mediating role of pro-environmental behaviors," *Sustainability*. mdpi.com, 2021.

<sup>11</sup> J. F. Molina-Azorin, M. D. López-Gamero, J. J. Tarí, and ..., "Environmental management, human resource management and green human resource management: A literature review," *Administrative ...* mdpi.com, 2021.

<sup>12</sup> K. Haldorai, W. G. Kim, and R. L. F. Garcia, "Top management green commitment and green intellectual capital as enablers of hotel environmental performance: The mediating role of green human resource ...," *Tour. Manag.*, 2022.

<sup>13</sup> L. Fang, S. Shi, J. Gao, and X. Li, "The mediating role of green innovation and green culture in the relationship between green human resource management and environmental performance," *Plos one*. journals.plos.org, 2022.

research is needed to understand the unique challenges and opportunities within different industry sectors. For example, research conducted by Marrucci et al., identified a lack of understanding of GHRM in the textile industry, while comprehensive similar studies are limited for other sectors <sup>14</sup>.

In addition, most existing studies focus more on the direct effect of GHRM on environmental performance, but pay less attention to mediating and moderating factors that may affect this relationship. The study by Fang et al., explored the mediating role of employee performance in GHRM, but there is a lack of comprehensive studies that address other mediators or moderators such as corporate culture, organizational size, or regional environmental regulations <sup>15</sup>.

Meanwhile, there is also a lack of longitudinal studies that can track the long-term impact of GHRM implementation on environmental performance. The majority of existing studies, such as the one conducted by Haldorai et al., are cross-sectional and do not capture the dynamic changes and long-term effects of implementing GHRM strategies <sup>16</sup>.

However, recent research has introduced some significant innovations in this area. One of the new approaches is the integration of GHRM with organizational innovation and intellectual capital. Research by Roscoe et al., introduced the concept of linking GHRM with environmental excellence through intellectual capital, which is a new approach that expands the understanding of how GHRM can contribute to sustainable business practices <sup>17</sup>.

In addition, behavioral and psychological perspectives are beginning to be applied in GHRM research. Studies such as the one conducted by Bhatti et al., are starting to pay attention to how GHRM affects green innovative behavior at the employee level, which adds a new dimension to the traditional focus on structural and policy aspects of GHRM <sup>18</sup>. Furthermore, research that begins to explore cross-cultural comparisons is also becoming increasingly relevant. Obeidat et al., conducted a comparative analysis of GHRM practices in different countries, providing insights into how cultural factors influence the effectiveness of GHRM in improving environmental performance <sup>19</sup>. Overall, although much progress has been made in research on GHRM and environmental performance, there are still some areas that require further exploration, particularly in relation to gaps in industry-specific research, the role of mediating and moderating factors, and the need for longitudinal studies. On the other hand, innovations in research approaches, such as integration with intellectual capital and behavioral perspectives,

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<sup>14</sup> L. Marrucci, T. Daddi, and F. Iraldo, "The contribution of green human resource management to the circular economy and performance of environmental certified organisations," *J. Clean. Prod.*, 2021.

<sup>15</sup> Fang, L., Shi, S., Gao, J., & Li, X. (2022). The mediating role of green innovation and green culture in the relationship between green human resource management and environmental performance. In *Plos one*. journals.plos.org.

<sup>16</sup> Haldorai, K., Kim, W. G., & Garcia, R. L. F. (2022). Top management green commitment and green intellectual capital as enablers of hotel environmental performance: The mediating role of green human resource .... *Tourism Management*.

<sup>17</sup> Roscoe, S., Subramanian, N., & ... (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development. ... *and the Environment*. <https://doi.org/10.1002/bse.2277>

<sup>18</sup> Obeidat, S. M., Bakri, A. A. Al, & Elbanna, S. (2020). Leveraging "green" human resource practices to enable environmental and organizational performance: Evidence from the Qatari oil and gas industry. *Journal of Business Ethics*. <https://doi.org/10.1007/s10551-018-4075-z>

<sup>19</sup> M. Bengtsson, "How to plan and perform a qualitative study using content analysis," *NursingPlus Open*, vol. 2, pp. 8-14, 2016, doi: 10.1016/j.npls.2016.01.001.

show potential to deepen our understanding of the role of GHRM in creating more sustainable business practices.

With the growing importance of sustainability in the modern business world, there is a need to understand how Green HRM practices can contribute to the improvement of an organization's environmental performance. Specifically, this research seeks to answer several important questions: How do Green HRM practices contribute to improved organizational environmental performance? What are the challenges and opportunities in implementing Green HRM? These questions are of great importance to both academic researchers and practitioners, as they address the practical implications of Green HRM for organizational sustainability. Understanding the relationship between Green HRM and environmental performance can help organizations design more effective HRM practices that support their sustainability goals. In addition, identifying the challenges and opportunities in implementing Green HRM can provide valuable insights for organizations looking to overcome barriers and leverage the benefits of Green HRM.

The main objective of this study is to analyze the role of Green HRM in improving an organization's environmental performance. This involves examining various Green HRM practices that can be adopted by organizations and assessing their impact on environmental outcomes. By understanding how Green HRM practices contribute to environmental performance, this research aims to provide a comprehensive framework for organizations looking to improve their sustainability efforts through HRM. In addition to analyzing the role of Green HRM, this research also aims to identify the challenges and opportunities associated with its implementation. This includes exploring the barriers organizations face in adopting Green HRM practices, such as resistance to change, lack of resources, and the need for new skills and competencies among employees.

This research has the potential to provide significant benefits to HR and management practitioners, as well as to the field of Green HRM and sustainability research more broadly. The insights gained from this research can help organizations to better understand the importance of Green HRM and how these practices can be used to improve their environmental performance. Specifically, the benefits of this research include providing insights for HR and management practitioners on the importance of Green HRM, as well as providing a basis for further research in the field of Green HRM and sustainability.

Green HRM represents an important intersection between human resource management and environmental sustainability. As pressure increases for organizations to improve their environmental performance, the role of Green HRM is likely to become increasingly important. By analyzing the impact of Green HRM practices on environmental performance and identifying the challenges and opportunities associated with its implementation, this study aims to provide valuable insights for practitioners and researchers. Ultimately, the aim of this research is to contribute to the development of more sustainable organizations that can thrive in an increasingly environmentally conscious world.

## **Research Method**

This research uses a descriptive qualitative approach designed to provide an in-depth understanding of the role of Green Human Resource Management (Green HRM) in improving organizational environmental performance. This approach was chosen because it allows researchers to explore the concept of Green HRM through literature review and secondary data analysis, without the need to conduct direct experiments in the field. Using literature review and

secondary data as the main sources, this research focuses on collecting and analyzing information from various existing sources, such as scientific journals, books, company reports, and academic articles relevant to the research topic [18]. This research design aims to uncover how Green HRM practices are implemented in various organizations and how they contribute to improved environmental performance.

The data source used in this research is secondary data obtained from various credible sources and has gone through a scientific review process<sup>20</sup>. The secondary data includes scientific journals that discuss the concept of Green HRM, environmental performance, and the relationship between these two variables. In addition, company reports that focus on sustainability strategies and Green HRM implementation are also important sources of data, as well as books and academic references that discuss the theory and practice of environmentally oriented human resource management. Academic articles from various fields such as human resource management, environmental management, and sustainability-related studies were also reviewed to provide a comprehensive overview of the research topic. The selection of these sources was done to ensure that the data obtained had a high level of reliability and was relevant to the research objectives.

Data collection techniques in this study were conducted through literature search and document analysis methods. The literature search process includes collecting various previous studies relevant to the topic of Green HRM and environmental performance from various academic and professional sources. Searches were conducted in scientific databases such as Google Scholar, Scopus, and ProQuest to find relevant journals and academic articles. In addition, company reports and policy documents related to Green HRM published by relevant companies or organizations were also examined to obtain more specific data regarding the application of Green HRM in the field. Textbooks related to human resource management theory and environmental sustainability were also reviewed to understand the theoretical framework underlying this research. These data collection techniques were designed to gather the necessary information to analyze how Green HRM practices are implemented and their impact on an organization's environmental performance.

Once the data was collected, this study used thematic analysis techniques to identify key themes related to Green HRM and environmental performance.

Thematic analysis was chosen for its ability to explore emerging patterns from the data collected and understand how elements of Green HRM can influence environmental performance. This analysis process began with data classify, where relevant information from the literature was categorized based on Green HRM practices, such as green recruitment, green training, and green performance management, and their impact on various aspects of environmental performance, including emissions reduction, energy efficiency, and sustainable use of resources. Key themes were identified to highlight Green HRM implementation strategies, challenges faced in their implementation, as well as opportunities arising from the integration of green HRM practices with sustainability goals. Conclusions were then drawn based on these themes, with the aim of developing a comprehensive interpretation of how Green HRM plays a role in improving an organization's environmental performance. With this methodology, this research is expected to provide in-depth and systematic insights into how Green HRM can be effectively implemented to support organizational sustainability goals, as well as identify challenges and opportunities faced during the implementation process.

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<sup>20</sup> F. W. Roosinda, N. S. Lestari, A. Utama, H. U. Anisah, and ..., *Metode penelitian kualitatif*. books.google.com, 2021.

**Research Finding**

This research aims to explore the role of Green Human Resource Management (Green HRM) in improving the environmental performance of organizations. Through a qualitative descriptive approach, data was collected from various secondary sources, including scientific journals, company reports, and academic articles. The collected data was then analyzed using thematic analysis techniques, which allowed the researcher to identify and categorize the main themes that emerged from the data.

This thematic analysis resulted in several key findings relevant to the research objectives. The themes identified include effective Green HRM practices, the impact of Green HRM implementation on environmental performance, and the challenges and opportunities organizations face in implementing Green HRM. These findings directly address the main research questions, namely how Green HRM practices contribute to improving the environmental performance of organizations and what are the challenges and opportunities associated with their implementation.

Overall, the results of this study suggest that Green HRM has an important role in supporting organizational sustainability efforts. These findings are not only relevant in an academic context but also provide practical insights for organizations looking to strengthen their sustainability strategies through human resource management. The research also identifies areas where organizations may face barriers, but also finds opportunities that can be leveraged to strengthen the implementation of Green HRM. As such, this research makes a significant contribution to the understanding and practice of Green HRM in the context of environmental performance.

**Table 1.** Green Human Resource Management Practices.

<b>Green HRM Practices</b>	<b>Description</b>	<b>Impact on Work Culture</b>	<b>Impact on Environmental Performance</b>
Green Recruitment	Implement a recruitment policy that focuses on candidates with high environmental awareness.	Enrich the work culture with greater environmental awareness.	Increase the adoption and promotion of environmentally friendly practices in the workplace.
Green Training and Development	Training programs that enhance employees' skills in green practices.	Promote environmental awareness and responsibility among employees.	Improving the effectiveness of sustainability initiatives within the company
Green Performance Management	Assess employees' performance based on their contribution to the company's environmental goals.	Encourage active participation in environmental programs.	Improve environmental performance through employee contributions to sustainability goals.
Green Compensation	Environment-based incentives to	Foster a work culture that	Motivate employees to achieve better

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encourage employee contribution to sustainability goals.	supports sustainability.	environmental outcomes.
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Source; <sup>2122</sup>

The findings from this study indicate that the implementation of Green Human Resource Management (Green HRM) practices has a significant impact on work culture and environmental performance in organizations. Green recruitment, for example, emphasizes on hiring individuals who have awareness and commitment to environmental issues. This not only enriches the company's work culture with sustainability values, but also ensures that recruited employees are more likely to be proactive in supporting and implementing green initiatives. As a result, these green recruitment practices contribute to increasing the effectiveness of green programs across the organization.

Furthermore, green training and development plays a very important role in enhancing employees' knowledge and skills related to green practices. These training programs not only increase environmental awareness and responsibility among employees, but also reinforce a sustainability-focused work culture. With employees' increased understanding of the importance of green actions, organizations can execute sustainability initiatives more effectively and efficiently.

In addition, green performance management, which evaluates employees based on their contribution to the company's environmental goals, creates a strong incentive for employees to actively engage in activities that support sustainability. These performance evaluations not only contribute to improving the organization's environmental performance, but also build a stronger commitment among employees to support the company's sustainability goals.

Green compensation practices, where environmental-based incentives are provided to encourage employee contributions to sustainability efforts, are an effective tool in motivating employees. These incentives, such as bonuses for contributions to emissions reductions or resource efficiency improvements, foster a more proactive work culture in protecting the environment. This not only ensures that the company's environmental goals are achieved more efficiently, but also encourages employees to continue engaging in sustainability efforts. Overall, effective implementation of Green HRM practices has a very positive impact not only on a company's environmental performance, but also in strengthening a sustainability-oriented organizational culture. Proper implementation of these practices can create a strong synergy between business and environmental goals, ultimately providing a sustainable competitive advantage for the company in the long run.

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<sup>21</sup> J. Aftab, N. Abid, N. Cucari, and ..., "Green human resource management and environmental performance: The role of green innovation and environmental

<sup>22</sup> Y. Jiang, S. I. Zaman, S. Jamil, S. A. Khan, and L. Kun, "A triple theory approach to link corporate social performance and green human resource management," ... *Sustain.*, 2024, doi: 10.1007/s10668-023-03272-3.

**Table 2.** Impact of Green Human Management Practices

<b>Impact of Green HRM Practices</b>	<b>Description</b>	<b>Implementation Example</b>	<b>Environmental Outcomes/Effects</b>
Emission Reduction	Green HRM's contribution to reducing greenhouse gas emissions and other environmental impacts	- Integration of green practices in daily operations. - Emission reduction based performance assessment.	- Significant reduction in greenhouse gas emissions. - Reduction of the company's carbon footprint.
Energy Efficiency	Improved energy efficiency through Green HRM programs focused on energy conservation and savings.	- Energy conservation training. - Green compensation policy for energy saving behavior.	- Significant reduction in energy consumption. - Reduction in operating costs related to energy use.
Resource Management	Adoption of more sustainable practices in the use and management of resources by the company.	- Training on sustainable resource management. - Resource efficiency based performance awards.	- Reduced use of natural resources. - Increased efficiency in resource management.

Source: <sup>23 24 25 26</sup>

Table 2 makes it clear that Green Human Resource Management (Green HRM) practices have a very positive impact on corporate environmental performance. These practices not only result in reduced greenhouse gas emissions, improved energy efficiency, and better resource management, but also directly support the company's overall sustainability goals. The three main pillars supported by Green HRM policies and practices-emission reduction, energy efficiency, and resource management-are important foundations in a company's efforts to become more environmentally friendly and sustainable in the long term.

Emission reduction through Green HRM, for example, demonstrates how companies can reduce their carbon footprint by integrating green principles in daily operations as well as through performance appraisals that focus on employees' contributions to environmental goals.

<sup>23</sup> R. Al-Alawneh, M. Othman, and A. A. Zaid, "Green HRM impact on environmental performance in higher education with mediating roles of management support and green culture," *Int. J. ...*, 2024, doi: 10.1108/IJOA-02-2023-3636.

<sup>24</sup> F. Irani, H. Kilic, and I. Adeshola, "Impact of green human resource management practices on the environmental performance of green hotels," *... Hosp. Mark. & Management*, 2022, doi: 10.1080/19368623.2022.2022554.

<sup>25</sup> A. K. Al-Swidi, H. M. Gelaidan, and R. M. Saleh, "... impact of green human resource management, leadership and organizational culture on employees' green behaviour and organisational environmental performance," *J. Clean. Prod.*, 2021.

<sup>26</sup> Y. K. Kuo, T. I. Khan, S. U. Islam, F. Z. Abdullah, and ..., "Impact of green HRM practices on environmental performance: The mediating role of green innovation," *Frontiers in ... frontiersin.org*, 2022. doi: 10.3389/fpsyg.2022.916723.



Thus, Green HRM not only helps companies comply with increasingly stringent environmental regulations, but also strengthens the company's reputation in the eyes of stakeholders, including customers, investors, and society at large.

Energy efficiency improvements, driven by Green HRM programs such as energy conservation training and green compensation policies, have also shown significant results. These programs enable companies to drastically reduce energy consumption, which in turn reduces operating costs. These cost savings provide companies with greater financial flexibility, which can be reinvested in other sustainability initiatives or used to improve competitiveness in the market.

In addition, better resource management is becoming increasingly important in today's business world, where the pressure to maintain sustainability is mounting. Green HRM helps companies implement more sustainable practices in the use of resources, such as water, energy and raw materials. Through employee training and performance rewards that focus on resource use efficiency, companies can minimize their environmental impact while improving operational efficiency. As such, Green HRM not only supports environmental sustainability, but also provides long-term benefits to companies in terms of reduced costs and improved operational stability.

Overall, the implementation of Green HRM strategies provides the dual benefits of not only supporting environmental sustainability, but also strengthening long-term business viability. The implementation of Green HRM is a strategic move that is not only important from an environmental point of view, but also from an economic and operational perspective. In the long run, companies that adopt Green HRM tend to be more adaptive to changes in environmental regulations, more efficient in their use of resources, and more competitive in a market that increasingly demands socially and environmentally responsible business practices. Therefore, Green HRM is not only a tool to achieve sustainability goals, but also a key component in a comprehensive and sustainable business strategy.

**Table 3.** Challenges and Opportunities for Green Human Resource Management Practices

Category	Aspects	Description
Challenges in Green HRM Implementation	Resistance to Change	Psychological and cultural barriers, including resistance from employees and management to the proposed change.
	Lack of Resources and Skills	Constraints related to the lack of financial resources and specialized skills needed to implement Green HRM.
	Difficulty in Aligning Environmental and Business Goals	The challenge of balancing the need to achieve short-term profitability with sustainability efforts.
Opportunities in Green HRM Implementation	Innovation in HR Practice	Opportunities to develop sustainability-focused HR programs, such as green skills training
		Opportunity to enhance the

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Competitive advantage

company's reputation and attract talent and customers through commitment to sustainability.

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Source: <sup>27</sup>

Table 3 provides a comprehensive overview of the challenges and opportunities organizations face in implementing Green Human Resource Management (Green HRM). One of the biggest challenges is resistance to change, which includes psychological and cultural barriers that often arise when organizations try to shift work practices towards sustainability. Employees and management may doubt the benefits of green practices or feel that the initiatives are irrelevant to their daily tasks. Without effective change management, this resistance can hinder the adoption of Green HRM and limit its impact on environmental performance.

In addition, the lack of financial resources and specialized skills required to effectively implement Green HRM is another significant challenge. Green initiatives often require large initial investments, including training, new technologies and sustainability programs. A lack of skills among employees and managers to support Green HRM implementation can also slow or even derail sustainability efforts. Another challenge is the difficulty in aligning environmental goals with traditional business objectives, such as short-term profitability. Many organizations still see sustainability as an additional cost burden rather than as an investment that can bring long-term benefits, which can hinder Green HRM progress.

However, behind these challenges lie great opportunities for innovation in HR practices. Green HRM allows organizations to develop new sustainability-oriented programs, such as green skills training and career development focused on environmental issues. These innovations not only improve environmental performance but also strengthen the company's commitment to sustainability. In addition, implementing Green HRM can significantly increase employee engagement. By involving employees in environmental initiatives, companies can increase motivation and job satisfaction, as employees feel they are contributing to a greater cause.

Finally, Green HRM can give companies a significant competitive advantage. Amid growing consumer awareness about environmental issues, companies that demonstrate a strong commitment to sustainability often gain an enhanced reputation and greater appeal in the marketplace. Green HRM also helps attract and retain employees who care about the environment, which in turn can strengthen the team with talent committed to sustainability values. Thus, despite the challenges, Green HRM offers great opportunities for companies to achieve greater sustainability and create long-term value.

## Discussion

This study shows that Green Human Resource Management (Green HRM) practices have a significant impact on corporate environmental performance, which is in line with previous literature on the importance of integrating green practices in human resource management. The findings support the results of previous studies that emphasize reduced emissions, improved energy efficiency, and better resource management as direct outcomes of implementing Green HRM policies. However, this study also offers a new contribution by highlighting the importance of the combination of performance appraisal and green compensation as a more effective tool in

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<sup>27</sup> R R Ahmed et al., "The Role of Green Innovation on Environmental and Organizational Performance: Moderation of Human Resource Practices and Management Commitment," *Heliyon* (cell.com, 2023)

improving energy efficiency and resource management, an aspect that has not been widely discussed in previous literature.

The implications of these findings are highly relevant for organizations looking to strengthen or introduce Green HRM practices. By integrating performance evaluations that focus on environmental contributions, organizations can encourage employees to be more active in green initiatives. In addition, ongoing training on energy conservation and efficient resource management can increase employees' awareness and skills, which in turn strengthens the company's environmental performance<sup>28 29 30</sup>. Effective implementation of green compensation policies can also further motivate employees to engage in activities that support the organization's sustainability goals. Organizations can use these findings to develop more focused and strategic HR programs, ensuring that corporate environmental goals are aligned with operational objectives.

However, the effectiveness of Green HRM cannot be separated from contextual factors such as industry, corporate culture, and geographical location<sup>31</sup>. In energy-intensive industries such as manufacturing or mining, implementing Green HRM can result in more significant emission reductions compared to service industries. In addition, corporate cultures that already have a strong commitment to sustainability tend to adopt and integrate Green HRM practices more easily. Geographical location also plays an important role;<sup>32 33</sup> companies operating in countries with strict environmental regulations may be more encouraged to implement Green HRM thoroughly compared to companies in regions with more relaxed regulations.

There are several limitations in this study, one of which is the use of secondary data that may not fully reflect the current conditions or specific context of each organization studied. Secondary data tends to be retrospective and may have biases, especially if the data source does not come from controlled primary research. These limitations may affect the validity of the results and interpretation, especially in generalizing the findings to different types of organizations or industries. In addition, the generalizability of these findings needs to be considered with caution, as the effectiveness of Green HRM can vary greatly depending on the specific context of the organization, such as the scale of the company and the level of maturity in sustainability practices.

To deepen the understanding of Green HRM and its impact on environmental performance, further research is needed in several areas.

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<sup>28</sup> S. A. Raza and K. A. Khan, "Impact of green human resource practices on hotel environmental performance: the moderating effect of environmental knowledge and individual green values," ... *Contemp. Hosp. Manag.*, 2022, doi: 10.1108/IJCHM-05-2021-0553.

<sup>29</sup> M. Sabokro, M. M. Masud, and A. Kayedian, "The effect of green human resources management on corporate social responsibility, green psychological climate and employees' green behavior," *J. Clean. Prod.*, 2021.

<sup>30</sup> S. K. Singh, M. Del Giudice, R. Chierici, and ..., "Green innovation and environmental performance: The role of green transformational leadership and green human resource management," ... *Forecast. Soc. ...*, 2020.

<sup>31</sup> M. A. Al Doghan, N. A. A. Abdelwahed, B. A. Soomro, and ..., "Organizational environmental culture, environmental sustainability and performance: the mediating role of green HRM and green innovation," *Sustainability*. mdpi.com, 2022.

<sup>32</sup> M. I. Hadjri, B. Perizade, and W. Farla, "Green human resource management, green organizational culture, and environmental performance: An empirical study," *2019 Int. Conf. ...*, 2019.

<sup>33</sup> P. Aggarwal and T. Agarwala, "Relationship of green human resource management with environmental performance: mediating effect of green organizational culture," *Benchmarking An Int. J.*, 2023, doi: 10.1108/BIJ-08-2021-0474.

Longitudinal studies involving primary data from different types of industries can provide clearer insights into how Green HRM evolves over time and under different conditions. Research focusing on the influence of organizational culture and geographical factors on the effectiveness of Green HRM can also help identify the most effective implementation strategies in various contexts. In addition, further exploration of the interaction between Green HRM and green technology innovation and its impact on long-term sustainability and competitive advantage of firms is also needed.

Overall, this study confirms the relevance and effectiveness of Green HRM in improving corporate environmental performance, but also emphasizes the importance of considering contextual factors and limitations in the broad application of these findings. By taking into account the limitations and suggestions for further research, organizations can more effectively adopt Green HRM as an integral part of their sustainability strategy.

## **Conclusion**

This research confirms that the implementation of Green Human Resource Management (Green HRM) has a significant impact on improving corporate environmental performance. The three main pillars supported by Green HRM policies and practices-reduced emissions, improved energy efficiency, and better resource management-show that Green HRM not only contributes to environmental sustainability, but also provides financial benefits through reduced operational costs. In addition, the study revealed that contextual factors such as industry, corporate culture, and geographical location greatly influence the effectiveness of Green HRM. This emphasizes the importance of integrating Green HRM strategies into organizational management policies to support long-term sustainability and create competitive advantage.

Based on the findings of this study, organizations looking to implement or improve their Green HRM practices are advised to consider several strategic steps. First, organizations need to integrate environmental performance indicators as part of employee performance evaluation to encourage active participation in green initiatives. Second, investment in ongoing training on energy conservation and efficient resource management is essential to increase employee awareness and skills. Third, the implementation of green compensation policies, such as providing incentives to employees who contribute significantly to emissions reduction or energy efficiency, can encourage green behavior in the workplace. Finally, each organization needs to tailor the implementation of Green HRM to their specific context, including industry characteristics, corporate culture, and local environmental regulations, to ensure its effectiveness.

In addition to providing practical guidance for organizations, this research also makes an important contribution to the academic literature by deepening the understanding of the relationship between Green HRM and environmental performance. This research confirms the relevance of Green HRM practices in the context of corporate sustainability and shows how a combination of Green HRM strategies, such as performance appraisal and green compensation, can be more effective in achieving environmental goals. Furthermore, this study highlights the importance of considering contextual factors in the implementation of Green HRM, an aspect that has not been widely discussed in previous research. For future research, it is recommended to conduct longitudinal studies involving primary data and explore the interaction between Green HRM and green technology innovation and its impact on the long-term sustainability and competitive advantage of firms.

As such, this study not only summarizes the essentials of implementing Green HRM, but also provides guidelines that can be used to strengthen Green HRM practices in organizations and direct further research in this area. The conclusions generated from this study provide valuable insights for practitioners and researchers, enabling them to understand and apply the concept of Green HRM more effectively and contextually.

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