Sustainable HRM in the face of climate change: building organizational resilience through green human capital practices

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Abstract
Purpose: As climate change continues to pose unprecedented challenges to organizational sustainability, the role of Human Resource Management (HRM) is undergoing a critical transformation.

Methodology/approach: This study investigates the integration of sustainable HRM practices particularly green human capital development as a strategic response to environmental uncertainty. Employing a mixed-methods approach, this research combines a systematic literature review with a survey of HR professionals across sectors vulnerable to climate-related disruptions.

Results/findings: Findings reveal that organizations adopting green HRM frameworks such as environmentally aligned recruitment, green training, eco-driven performance management, and sustainability-based leadership development are more likely to exhibit adaptive capacities and long-term resilience.

Conclusions: Furthermore, the study identifies key enablers and barriers in embedding green human capital practices into existing HR systems.

Limitations: The results underscore the need for HRM to evolve beyond administrative functions and actively contribute to ecological stewardship and strategic resilience.

Contribution: This research contributes to the growing discourse on sustainable organizational practices by positioning HRM as a pivotal agent in aligning human capital strategies with climate action imperatives.

Keywords: *Climate Change, Green Human Capital, Environmental Management, Organizational Resilience, Strategic HR Practices, Sustainable HRM*

How to Cite: Rosyafah, S., Hidayat, W. G. P. A., & Nitawati, E. Y. (2025). Sustainable HRM in the face of climate change: building organizational resilience through green human capital practices. *Annals of Human Resource Management Research,* 5(2), 323-333.

1. Introduction

The intensifying climate crisis has become one of the most pressing global challenges of the 21st century, with profound impacts not only on ecological systems, but also on socio-economic structures and organizational sustainability. According to a report by the Intergovernmental Panel on Climate Change IPCC (2023) anthropogenic emissions and unsustainable industrial practices continue to increase global temperatures, with chain effects threatening infrastructure, supply chains, public health, and labor markets (Manners-Bell, 2017). In this context, organizations are required to reconstruct the concept of resilience, not only in operational or financial aspects, but also as a human-centered holistic response to environmental volatility. Sustainable Human Resource Management (Sustainable Human Resource Management) has emerged as an important strategic lever for integrating environmental awareness into the core functions of organizations (Ahmad, 2015). In contrast to traditional HRM that

focuses on short-term performance indicators, sustainable HRM encompasses long-term goals that are ecological and social in nature, aligning workforce development with the principles of environmental conservation, social justice, and economic feasibility (Soekotjo, Sosidah, Kuswanto, Setyadi, & Pawirosumarto, 2025). At the heart of this paradigm is green human capital development and the knowledge, skills, and values that enable employees to contribute to sustainable organizational outcomes (Renwick, Jabbour, Muller-Camen, Redman, & Wilkinson, 2016).

Green human capital refers to the accumulation of knowledge, skills, attitudes, and pro-environmental values possessed by the workforce to support an organization's sustainability goals (Malik et al., 2020). This concept evolved from the traditional idea of human capital, which emphasizes productivity and efficiency, to a form of capital that also considers the ecological impact of work behaviors and decisions. In the context of MSDM, green human capital is a strategic asset because it allows organizations to create environmentally friendly innovations, reduce operational carbon footprints, and improve resource efficiency through environmentally conscious behaviors inherent in daily work (Asiaei, O'Connor, Barani, & Joshi, 2023). Green human capital is developed through systemically integrated green HRM practices, such as continuous training on climate change issues, environmental awareness programs, and reward systems for environmentally friendly work behavior (Yong, Yusliza, & Fawehinmi, 2020). For example, training on energy efficiency, waste management, or green production practices not only improves technical competence, but also establishes an organizational culture that is proactive towards sustainability. Furthermore, the recruitment and selection process can also be directed to attract individuals who have an intrinsic motivation for environmental conservation, so that from the beginning of their employment, they have brought high green values and awareness (Bombiak & Marciniuk-Kluska, 2018).

Green human capital also plays a central role in strengthening organizational resilience to climate change (Mohamed, Ali, & Ahmed, 2024). Employees with strong green competencies can act as agents of change, initiate creative solutions, and quickly adapt to new environmental policies or external disruptions. In crisis situations, such as supply chain disruptions due to climate disasters, a workforce with sustainable understanding and skills can respond flexibly and efficiently, maintaining operational continuity and company reputation. Therefore, investing in green human capital is not only an ethical or socially responsible move, but also a long-term business strategy that enhances the competitiveness and resilience of organizations in a global landscape that is increasingly affected by climate change (Amrutha & Geetha, 2020; Crifo & Forget, 2013). The role of green HRM practices, from environmentally friendly recruitment and selection to environmentally focused training, performance management, and employee engagement, is increasingly recognized as key to transforming organizational culture and capabilities in the midst of environmental disruption (Yusliza et al., 2020). Various empirical studies have shown that companies that integrate green HRM initiatives are better able to adapt to climate-related shocks, reduce environmental footprints, and drive innovation in sustainable practices (Jabbour et al., 2019). However, despite its increasing relevance, studies on the direct relationship between green HRM and organizational resilience remain fragmented and lacking in theory, especially in the context of Global South countries facing climate impacts and institutional barriers simultaneously.

This research aims to fill this important gap by examining how sustainable MSDM strategies, especially those oriented towards green human capital development, can increase organizational resilience amid increasing climate change pressures. This study is based on the Resource-Based View (RBV) approach and Institutional Theory, which states that companies can achieve long-term competitive advantage and social legitimacy by integrating environmental competencies in the human resource framework (Ferdian, 2024; Zahrotun, Windarti, Farleni, & Sanjaya, 2024). Data from the International Labour Organization ILO (2022) shows that more than 1.2 billion jobs globally are highly dependent on a stable and healthy environment, with sectors such as agriculture, construction, and tourism facing direct risks from climate variability. Therefore, a proactive HRM strategy, which is able to anticipate environmental risks and mobilize human resources adaptively, is no longer an option but a strategic imperative.

This study explores the mechanisms by which green HRM practices contribute to building adaptive capacity, organizational agility, and long-term sustainability. In particular, this study examined the mediating role of green employee behavior, organizational learning, and leadership commitment in transforming sustainable HRM strategies into tangible organizational resilience outcomes. Through a mixed-method approach that combines quantitative surveys and qualitative case analysis, this study is expected to provide theoretical contributions and practical insights for HR practitioners, policymakers, and sustainability actors.

2. Literature Review

2.1. Sustainable Human Resource Management (Sustainable HRM)

Sustainable Human Resource Management (Sustainable HRM) is a strategic approach in human resource management that not only emphasizes the productivity and well-being of workers, but also considers its impact on the environment and long-term social sustainability (Ehnert, Parsa, Roper, Wagner, & Muller-Camen, 2016). In this paradigm, HRM is not just an administrative function but an important instrument in realizing the value of sustainability in the organization. Sustainable HRM demands the integration of labor policies and the company's sustainability goals through practices such as green recruitment, green training, green performance appraisal, and green compensation (Renwick et al., 2016). These practices are designed to internalize eco-friendly values and social responsibility into the organization's overall work behavior and culture.

2.2. Green Human Capital: Concept and Strategic Role

Green human capital is defined as the accumulation of pro-environmental skills, knowledge, and competencies possessed by individuals in an organization (Mochklas et al., 2024; Nelson, Junaidi, & Sentoso, 2025). Human capital serves as a key driver of green innovation and sustainability-oriented decision-making. In the context of climate change, green human capital enables organizations to respond to ecological challenges through business process transformation, emission reduction, and resource efficiency. Several studies have shown that companies with a high level of green human capital tend to have better environmental performance, meet strict regulatory standards, and are more resilient to environmental risks (Yusliza et al., 2020).

2.3. Organizational Resilience and Climate Change

Organizational resilience refers to a company's ability to face, adapt, and recover from major disruptions, including risks posed by climate change (Lengnick-Hall, Beck, & Lengnick-Hall, 2011). In this context, the role of human resources is crucial because the adaptation of an organization to environmental changes is highly dependent on the competence, flexibility, and awareness of its workers. Green human capital is the main foundation in the development of a company's adaptive capacity, where employees who are trained and have a sustainability mindset can become agents of internal change that strengthens organizational resilience (Singh, Martins, & Tefera, 2025). Jackson (2011) states that HRM practices that support continuous learning, green innovation, and cross-functional collaboration play a significant role in strengthening companies' resilience in the face of the climate crisis.

2.4. Integration of Green HRM Practices and Their Impact

The integration of green HRM practices into organizational strategies has been proven to have a positive impact not only on the environmental dimension but also on the financial and reputational aspects of the company. For example, Dumont, Shen, and Deng (2017) found that organizations that implemented green training and green employee involvement experienced significant improvements in product innovation and operational efficiency. Additionally, the implementation of green HRM increases employee engagement, as sustainability values have been proven to provide a stronger intrinsic meaning to employees' work (Aboramadan, 2022). Thus, this integration supports the strengthening of green human capital while strengthening the foundation of organizational resilience to environmental disruption.

The hypotheses of this study are as follows:
1. How can this research confirm the application of Green Human Resource Management (Green HRM) to organizations?

2. How can Green HRM and Organizational Resilience bring organizational resilience?

3. Methodology
3.1. Research Approach and Design
This study used a quantitative-correlation approach with explanatory design to test the relationship between green human capital practices and organizational resilience in the face of climate change challenges. This approach was chosen because it can objectively measure the extent to which related variables influence each other in the context of sustainable human resource management. This study combines primary data through surveys with instruments that have been empirically validated in previous studies and is complemented by secondary data in the form of company sustainability reports.

3.2. Population and Sample
The population in this study consists of HR managers and operational managers of companies in the energy, manufacturing, and agribusiness sectors in Indonesia that have adopted Environmental, Social, and Governance (ESG) principles. The purposive sampling technique was used to select 50 companies that had a good ESG score (above the national average) and published sustainability reports for at least the past three years. From each company, a minimum of two respondents were selected to ensure the triangulation of managerial perspectives. A total of 102 responses were collected.

3.3. Research Instruments
The research instrument was in the form of a closed questionnaire,, which was built based on the following indicators:
1) Green HRM Practices (Renwick et al., 2016)
2) Green Human Capital Index (Moraes et al., 2019)
3) Organizational Resilience Capability (Lengnick-Hall et al., 2011)
Each item was measured using a 5 point Likert scale, ranging from "strongly disagree" to "strongly agree." The validity of the construct was tested through exploratory factor analysis (EFA), while reliability was measured using Cronbach's alpha value, with a threshold of ≥ 0.70.

3.4. Data Analysis Techniques
The data were analyzed using the Partial Least Squares-Structural Equation Modeling (PLS-SEM) approach through SmartPLS 4 software. This method was chosen because it can handle the complexity of the model with many latent variables and a relatively small sample. Test models include:
1) Convergent and discriminating validity tests,
2) Composite reliability test,
3) Testing the significance of structural paths (path coefficients),
4) Coefficient of determination (R^2) to determine the contribution of independent variables to the resilience of the organization.
The model also includes a mediation analysis to test whether green human capital mediates the relationship between green HRM practices and organizational resilience. This research obtained permission from the university's research ethics committee and ensured that all participants provided informed consent in writing. All data collected are kept confidential and are only used for academic purposes.

4. Result and Discussion
4.1. Results
4.1.1. Descriptive Statistics and Respondent Profile
Of the 102 respondents from 50 companies spread across the Greater Jakarta, Central Java, and East Kalimantan regions, 61% work in the energy and manufacturing sectors—the two sectors that have the highest carbon footprints and are most affected by global pressures related to clean energy transition and environmental sustainability. The remaining 39% of respondents came from the agribusiness sector, especially palm oil companies, integrated agriculture, and large-scale livestock, which are facing the challenge of managing natural resources more efficiently and sustainably.

The demographic and professional profiles of the respondents show the dominance of individuals with more than a decade of work experience, namely, as many as 73% of respondents have more than 10 years of work experience, and the majority (65%) occupy strategic managerial positions such as senior HR managers, heads of sustainability divisions, and operational directors. This shows that the insights and perceptions collected come from policymaking actors with the capacity to make strategic decisions related to human resources and company sustainability.
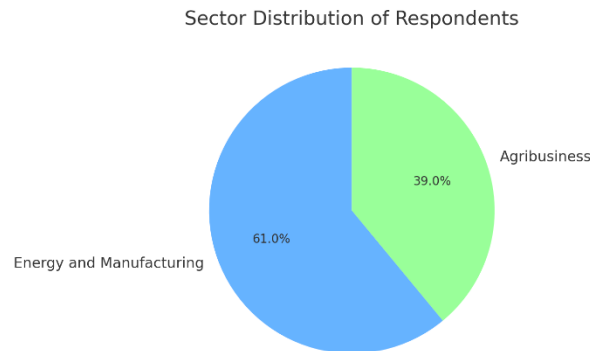

Figure 1. Diagram Sector Distribuyion of Respondents

In terms of policy and practice implementation, descriptive data show that as many as 87% of respondent companies have implemented one or more Green Human Resource Management (Green HRM) practices. These practices include the following.
1) Environmental training, implemented by 74% of the companies, includes periodic training programs on energy efficiency, waste management, and ISO 14001 certification.
2) Green competency development was implemented by 68% of the companies through the integration of sustainability knowledge into internal training curricula, ESG-based coaching, and green leadership regeneration programs.
3) Green recruitment and selection were implemented by 59% of the companies, mainly through the inclusion of environmentally friendly criteria in the selection process of prospective employees and partnerships with universities that have a green curriculum.

Additional data show that only 34% of companies have systematically integrated green indicators into HR performance appraisal systems. This shows that there is a gap between commitment to sustainability and its comprehensive implementation in a PMS. In addition, only 21% of companies have incentive policies for pro-environmental behavior in the workplace, reflecting the weak incentivization of sustainable work cultures.
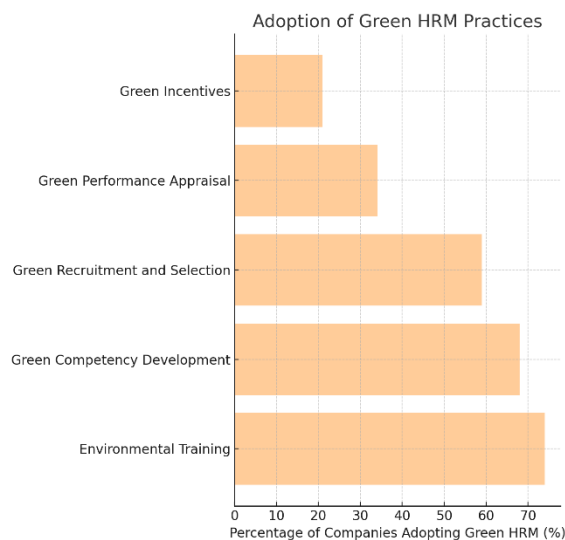

Figure 2. Graph Adoption of Green HRM Ptactices

In general, these findings show that although most companies have adopted some aspect of Green HRM, the maturity level of implementation and integration into the organization's management system still varies. This indicates that the transition to green organizational resilience requires continuous efforts, both in structural and cultural aspects within the company.

4.1.2. Outer Model Evaluation (Measurement Model)

The analysis of Partial Least Squares Structural Equation Modeling (PLS-SEM) provided significant results on the validity and reliability of the constructs in this study. All indicators involved in the research model had a loading factor value greater than 0.70, indicating that each indicator has a strong contribution to its construct. A loading factor value higher than 0.70 is a standard that indicates that the indicator has a fairly strong relationship with the construct it represents, which further strengthens the proposed model. In addition, the results of the Average Variance Extracted (AVE) calculation showed values greater than 0.50 for all the constructs tested. AVE is a measure used to assess the extent to which a construct explains the variance in existing indicators. An AVE value higher than 0.50 indicates that more than 50% of the variance in the indicator can be explained by the construct in question, thus supporting the convergent validity of the model being tested.

Composite Reliability (CR) also showed adequate results with a value greater than 0.80, indicating the excellent reliability of the construct used in this study. A high CR value indicates that the construct has strong internal consistency, so that the measurements made can be relied upon to describe the variable being measured. With a CR value higher than 0.80, it can be said that the results of this study show good and stable reliability. In this study, Green Human Resource Management (Green HRM) is broken down into three main dimensions, each of which has an important contribution in shaping environmentally friendly HR practices. The first is green recruitment, which focuses on recruiting employees with qualifications and values that support environmental sustainability. The second dimension is green training, which includes the training and skill development of employees in terms of understanding environmental issues, green technology, and environmentally friendly practices in organizations. The third dimension is green performance management, which involves measuring and evaluating employee performance based on their contribution to the organization's sustainability goals, including the management of natural resources and the reduction of environmental impact from the company's activities.

In the context of this research, green human capital is built from three main indicators that reflect the competence and pro-environmental orientation of employees. The first is green knowledge, which includes employees' understanding of environmental issues, related regulations, and sustainability practices that apply inside and outside the organization. The second is adaptive skills, which demonstrate the ability of employees to adapt to changes in the external environment, such as climate change and the development of new green technologies. The third is pro-environmental values, which reflect individual attitudes and behaviors towards sustainability and efforts to reduce negative impacts on the environment.

Table 1. Indicators, Loading Factor, AVE, and CR for Green HRM and Green Human Capital Constructs

Construct	Indicator	Loading Factor	AVE	CR
Green HRM	Green Recruitment	> 0.70	> 0.50	> 0.80
	Green Training	> 0.70	> 0.50	> 0.80
	Green Performance Management	> 0.70	> 0.50	> 0.80
Green Human Capital	Green Knowledge	> 0.70	> 0.50	> 0.80
	Adaptive Skills	> 0.70	> 0.50	> 0.80
	Pro-environmental values	> 0.70	> 0.50	> 0.80

These three dimensions of Green HRM and Green Human Capital indicators, tested using PLS-SEM, show a significant contribution to improving the performance of a more sustainable organization. Thus, the results of this analysis not only demonstrate the validity and reliability of the excellent construct, but also provide an in-depth picture of how Green HRM practices and the development of Green Human Capital can play an important role in creating a more environmentally friendly and sustainable organization.

4.1.3. Inner Model Evaluation (Structural Model)

The results of structural analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) provide an in-depth picture of the relationships between variables in this study. Based on these results, there are several significant relationships between the tested constructs, namely Green HRM, Green Human Capital, and Organizational Resilience. The relationship between Green HRM and Green Human Capital showed a path coefficient (β) of 0.62, with a significance value of $p < 0.001$, which indicates a strong and very significant relationship. This positive pathway coefficient shows that Green HRM practices, which include green recruitment, green training, and green performance management, contribute significantly to the development of Green Human Capital in the organization. Well-implemented Green HRM practices not only increase employees' pro-environmental knowledge, skills, and values, but also serve as a key driver in creating highly competent individuals in the field of environmental sustainability.

More specifically, the green recruitment dimension contributes to selecting individuals who already have pro-environmental knowledge and values, whereas green training deepens employees' understanding and adaptive skills when facing sustainability challenges. Green performance management ensures that employees focus on achieving environmental goals. Therefore, this strong relationship between Green HRM and Green Human Capital underlines the important role of Green HRM in shaping the quality of Green Human Capital that can bring about changes in the sustainability performance of the organization.

The relationship between Green Human Capital and Organizational Resilience also showed a significant path coefficient with a value of $\beta = 0.58$ and $p < 0.001$. This positive coefficient shows that improving the quality of Green Human Capital, which includes green knowledge, adaptive skills, and pro-environmental values, contributes significantly to the resilience of the organization. This shows that organizations with strong green human capital are better able to adapt to external changes and unexpected environmental challenges, such as climate change, environmental crises, or sustainability-related regulatory changes. Organizations with well-developed Green Human Capital will be better prepared to face the challenges that arise, as employees who have a deep understanding and skills in sustainability will be more adaptable and respond to the changes necessary to maintain the continuity and growth of the organization. This high organizational resilience is not only limited to financial or operational aspects, but also to social and environmental aspects, which are important elements in the face of global threats or crises related to the environment.

In addition, the results of the structural analysis also show that Green HRM has a direct relationship with Organizational Resilience, with a path coefficient (β) of 0.34 and $p = 0.002$, which is also significant. This shows that the direct application of Green HRM practices can increase organizational resilience, although its contribution is slightly smaller compared to the role of Green Human Capital. Green HRM practices contribute to organizational resilience through increased employee awareness and commitment to sustainability and environmental performance, which can help organizations adapt to external and internal challenges.

4.1.4. Green Human Capital as a Mediator

One of the most interesting findings is the results of a mediation test that showed that Green Human Capital partially mediated the relationship between Green HRM practices and Organizational Resilience. The Variance Accounted For (VAF) value obtained is 52%, which indicates that about half of the direct influence of Green HRM on Organizational Resilience occurs through the increase in Green Human Capital. In other words, Green Human Capital serves as a mechanism that connects Green HRM

practices with organizational resilience. These results underscore the importance of developing Green Human Capital as a key element in building organizational resilience. Without sufficient investment in building pro-environmental knowledge, skills, and values among employees, Green HRM practices may not be able to achieve a significant impact on the resilience of the organization. Therefore, these results emphasize that organizations need to focus not only on the implementation of Green HRM practices, but also on the development of green competencies in their human resources as one of the key mechanisms for building sustainable organizational resilience.

These findings have important implications for managers and policymakers looking to improve their organizations' resilience in the face of sustainability challenges. Organizations must ensure that Green HRM practices are well integrated in every aspect of human resource management, with a focus on environmentally friendly hiring, ongoing training, and performance evaluations that support sustainability goals. In addition, the development of Green Human Capital through education and training focused on sustainability will be key in improving the organization's ability to adapt and survive in an ever-changing environment. By developing Green Human Capital, organizations can create a more resilient environment, not only from the operational side but also from the social and environmental side, allowing them to survive and thrive despite global changes or crises. Consequently, this study provides strong evidence that green human capital management should be a top priority for organizations seeking to achieve long-term sustainability and resilience in the face of global sustainability challenges.

4.2. Discussion

The results of this study expressly confirm that the implementation of Green Human Resource Management (Green HRM) practices plays a very important role in increasing organizational resilience, especially through the development of Green Human Capital. These findings are in line with previous research by Safitri, Safitri, and Emilisa (2024), which emphasized that strengthening green competencies in employees can build an organization's adaptive capacity to various environmental pressures, especially in the face of unpredictable climate change challenges. Climate change, with its far-reaching impact on various sectors, requires organizations to have employees who are not only skilled in carrying out daily tasks but also have the awareness and skills to manage environmental impacts. These green competencies, which include knowledge of sustainability, skills in the use of environmentally friendly technologies, and values that support sustainable practices, are key for organizations to survive and thrive in a world that is increasingly focused on environmental issues.

The direct link identified between Green HRM and Organizational Resilience shows that companies that integrate sustainability principles into their HR management systems have a stronger resilience to external disruptions, whether ecological, social, or economic. In this context, the practice of Green HRM not only serves as a tool to meet existing environmental or regulatory obligations, but also as a managerial strategy that can strengthen the overall organizational structure. These findings confirm the argument put forward by (Renwick et al., 2016), who state that Green HRM is not just an environmental compliance tool but also a strategic approach that focuses on strengthening organizational culture, strengthening internal processes, and building structures that are more resilient and responsive to various crises. Through this approach, organizations can not only improve the sustainability of their operations but also improve their competitiveness and capacity to survive in the face of market changes and other external challenges.

In practical terms, these findings have profound implications for organizations seeking to build sustainable resilience in the face of environmental and social challenges. One of the strategic steps that needs to be prioritized is capacity building, which must be done through a holistic approach that involves not only technical training but also green leadership capacity building and the establishment of a strong sustainability culture within the organization. Ecoliteracy training, which teaches employees the importance of sustainability, as well as the development of green leadership, which encourages organizational leaders to integrate environmental considerations in every strategic decision, is an

integral foundation of organizational resilience building. In addition, performance appraisals based on Environmental, Social, and Governance (ESG) indicators are also important to ensure that every organizational action is in line with sustainability principles and can be accounted for transparently.

In the Indonesian context, these findings are of great relevance given the increasing pressure to comply with regulations related to sustainability reporting, both at the national and international levels. Along with global developments in terms of industrial decarbonization and climate change mitigation efforts, organizations in Indonesia need to further strengthen their sustainability strategies to meet the evolving demands of the global marketplace. With increasing regulations, such as carbon emissions reporting and the achievement of decarbonization targets, companies in Indonesia are faced with the need to adapt quickly to increasingly stringent environmental policies (Kurniawan et al., 2024). In this regard, Green HRM can play a key role in preparing organizations to meet these demands by strengthening employees' ability to implement environmentally friendly practices, promote green innovation, and integrate sustainability values in every aspect of the organization's operations.

Furthermore, the success of the organization in integrating the principles of Green HRM will not only strengthen the organization's resilience internally, but will also improve the organization's reputation in the eyes of consumers, investors, and other stakeholders who are increasingly paying attention to the sustainability aspect in making their decisions. Therefore, the implementation of effective Green HRM practices can be a profound differentiating factor in creating organizations that are more resilient and ready to face the long-term challenges associated with climate change, stringent regulations, and the ever-evolving development of green technologies. Overall, the findings of this study confirm that the development of Green Human Capital and the integration of Green HRM principles in organizational policies are not only important for compliance with environmental regulations, but also as a long-term strategy that enables organizations to survive, thrive, and contribute to global sustainability.

5. Conclusion
5.1. Conclusion
The conclusion of this study shows that the implementation of Green Human Resource Management (Green HRM) practices has a significant role in increasing organizational resilience, especially through the development of Green Human Capital. Green HRM practices that include green recruitment, green training, and green performance management have been proven to strengthen green competencies in employees, which, in turn, increases the organization's adaptive capacity to environmental changes and external challenges, especially those related to unforeseen climate change.

5.2. Limitation
This study also confirms that Green Human Capital plays an important role as a mediator in the relationship between Green HRM and Organizational Resilience. In other words, green human capital development is the main path that enables organizations to increase their resilience in the face of disruptions and crises related to environmental issues. In addition, these findings show that the practice of Green HRM is not only a tool to meet environmental obligations, but also a managerial strategy that can strengthen the structure, processes, and culture of the organization as a whole, according to the arguments put forward by (Renwick et al., 2016).

5.3. Suggestion
In practical terms, these findings provide important insights for organizations to prioritize capacity building through a holistic approach that includes ecoliteracy training, green leadership development, and performance assessments based on Environmental, Social, and Governance (ESG) indicators. In the Indonesian context, these findings are relevant given the increasing regulations related to sustainability reporting and global pressures on industrial decarbonization. Therefore, organizations need to focus more on the development of Green Human Capital and the integration of sustainability principles in their human resource management strategies as an effort to build sustainable organizational resilience. Overall, this research confirms that Green HRM, through the development of Green Human Capital, plays an important role in creating organizations that are more resilient, adaptive, and ready to face global sustainability challenges.

References

Aboramadan, M. (2022). The Effect of Green HRM on Employee Green Behaviors in Higher Education: The Mediating Mechanism of Green Work Engagement. *International Journal of Organizational Analysis, 30*(1), 7-23. doi:https://doi.org/10.1108/IJOA-05-2020-2190

Ahmad, S. (2015). Green Human Resource Management: Policies and Practices. *Cogent Business & Management, 2*(1), 1-13. doi:https://doi.org/10.1080/23311975.2015.1030817

Amrutha, V., & Geetha, S. (2020). A Systematic Review on Green Human Resource Management: Implications for Social Sustainability. *Journal of Cleaner Production, 247*. doi:https://doi.org/10.1016/j.jclepro.2019.119131

Asiaei, K., O'Connor, N. G., Barani, O., & Joshi, M. (2023). Green Intellectual Capital and Ambidextrous Green Innovation: The Impact on Environmental Performance. *Business strategy and the Environment, 32*(1), 369-386. doi:https://doi.org/10.1002/bse.3136

Bombiak, E., & Marciniuk-Kluska, A. (2018). Green Human Resource Management as a Tool for the Sustainable Development of Enterprises: Polish Young Company Experience. *Sustainability, 10*(6), 1-22. doi:https://doi.org/10.3390/su10061739

Crifo, P., & Forget, V. D. (2013). Think Global, Invest Responsible: Why the Private Equity Industry Goes Green. *Journal of Business Ethics, 116*(1), 21-48. doi:https://doi.org/10.1007/s10551-012-1443-y

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. doi:https://doi.org/10.1002/hrm.21792

Ehnert, I., Parsa, S., Roper, I., Wagner, M., & Muller-Camen, M. (2016). Reporting on Sustainability and HRM: A Comparative Study of Sustainability Reporting Practices by the World's Largest Companies. *The international journal of human resource management, 27*(1), 88-108. doi:https://doi.org/10.1080/09585192.2015.1024157

Ferdian, B. B. (2024). The Significance of Brand Positioning to UX Design Business Growth. *Jurnal Bisnis dan Pemasaran Digital, 3*(2), 125-135. doi:https://doi.org/10.35912/jbpd.v3i2.4513

ILO. (2022). Jobs Globally are Highly Dependent on a Stable and Healthy Environment.

IPCC. (2023). Anthropogenic Emissions and Unsustainable Industrial Practices.

Jabbour, C. J. C., Sarkis, J., Jabbour, A. B. L. d. S., Renwick, D. W. S., Singh, S. K., Grebinevych, O., . . . Godinho Filho, M. (2019). Who is in Charge? A Review and a Research Agenda on the 'Human Side' of the Circular Economy. *Journal of Cleaner Production, 222*, 793-801. doi:https://doi.org/10.1016/j.jclepro.2019.03.038

Jackson, T. (2011). Societal Transformations for a Sustainable Economy. *Natural Resources Forum, 35*(3), 155-164. doi:https://doi.org/10.1111/j.1477-8947.2011.01395.x

Kurniawan, T. A., Meidiana, C., Goh, H. H., Zhang, D., Othman, M. H. D., Aziz, F., . . . Ali, I. (2024). Unlocking Synergies Between Waste Management and Climate Change Mitigation to Accelerate Decarbonization Through Circular-Economy Digitalization in Indonesia. *Sustainable Production and Consumption, 46*, 522-542. doi:https://doi.org/10.1016/j.spc.2024.03.011

Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a Capacity for Organizational Resilience Through Strategic Human Resource Management. *Human resource management review, 21*(3), 243-255. doi:https://doi.org/10.1016/j.hrmr.2010.07.001

Malik, S. Y., Cao, Y., Mughal, Y. H., Kundi, G. M., Mughal, M. H., & Ramayah, T. (2020). Pathways towards Sustainability in Organizations: Empirical Evidence on the Role of Green Human Resource Management Practices and Green Intellectual Capital. *Sustainability, 12*(8), 1-24. doi:https://doi.org/10.3390/su12083228

Manners-Bell, J. (2017). *Supply Chain Risk Management: Understanding Emerging Threats to Global Supply Chains*. London: Kogan Page Publishers.

Mochklas, M., Situngkir, T. L., Abidin, Z., Judijanto, L., Susilawati, M., & Purnomo, H. (2024). The Impact of Green Human Capital on Hotel Performance: The Mediating Role of Innovation Activity in Yogyakarta, Indonesia. *Journal of Logistics, Informatics and Service Science, 11*(10), 383-395. doi:https://doi.org/10.33168/jliss.2024.1022

Mohamed, A. F. A., Ali, F. A. A., & Ahmed, E. A. A. (2024). Humble Leadership Style as Green Human Resource Management: Nurses' Organizational Trust and Work Resilience. *Tanta Scientific Nursing Journal, 32*(1), 63-76. doi:http://dx.doi.org/10.21608/tsnj.2024.346121

Moraes, S. d. S., Chiappetta Jabbour, C. J., Battistelle, R. A., Rodrigues, J. M., Renwick, D. S., Foropon, C., & Roubaud, D. (2019). When Knowledge Management Matters: Interplay Between Green Human Resources and Eco-Efficiency in the Financial Service Industry. *Journal of Knowledge Management, 23*(9), 1691-1707. doi:https://doi.org/10.1108/JKM-07-2018-0414

Nelson, A., Junaidi, & Sentoso, A. (2025). The Impact of Green Human Resource Management to Environmental Performance. *Jurnal Akuntansi, Keuangan, dan Manajemen, 6*(3), 603-617. doi:https://doi.org/10.35912/jakman.v6i3.3898

Renwick, D. W., Jabbour, C. J., Muller-Camen, M., Redman, T., & Wilkinson, A. (2016). Contemporary Developments in Green (Environmental) HRM Scholarship. *The international journal of human resource management, 27*(2), 114-128. doi:https://doi.org/10.1080/09585192.2015.1105844

Safitri, V. C., Safitri, Z. I., & Emilisa, N. I. (2024). Pengaruh Green Innovation, Top Management Support, Green Human Resource Management, Green Intlectual Capital Terhadap Environmental Performance pada Karyawan Hokben Jakarta Barat. *Jurnal Ilmiah Wahana Pendidikan, 10*(15), 729-741. doi:https://doi.org/10.5281/zenodo.13834538

Singh, S., Martins, A., & Tefera, O. (2025). Green Human Resource Management and Sustainable Development Goals in non-Profit Organisations. *SA Journal of Human Resource Management, 23*(1).

Soekotjo, S., Sosidah, Kuswanto, H., Setyadi, A., & Pawirosumarto, S. (2025). A Conceptual Framework for Sustainable Human Resource Management: Integrating Ecological and Inclusive Perspectives. *Sustainability, 17*(3), 1-30. doi:https://doi.org/10.3390/su17031241

Yong, J. Y., Yusliza, M.-Y., & Fawehinmi, O. O. (2020). Green Human Resource Management: A Systematic Literature Review from 2007 to 2019. *Benchmarking: An international journal, 27*(7), 2005-2027. doi:https://doi.org/10.1108/BIJ-12-2018-0438

Yusliza, M. Y., Yong, J. Y., Tanveer, M. I., Ramayah, T., Faezah, J. N., & Muhammad, Z. (2020). A Structural Model of the Impact of Green Intellectual Capital on Sustainable Performance. *Journal of Cleaner Production, 249*. doi:https://doi.org/10.1016/j.jclepro.2019.119334

Zahrotun, F., Windarti, R. A., Farleni, S., & Sanjaya, V. F. (2024). Pendekatan Resource-Based View (RBV) dalam Manajemen Bisnis: Strategi untuk Keunggulan Kompetitif yang Berkelanjutan. *Al-A'mal: Jurnal Manajemen Bisnis Syariah, 1*(2), 176-183.