

Theoretical Foundations of Green HRM: Linking Sustainable Practices to Competitive Advantage 8

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Abstract

Green Human Resource Management (GHRM) has emerged as a vital strategic tool for organizations aiming to integrate environmental sustainability into their core operations. This study conceptualizes the multifaceted nature of GHRM and evaluates its impact on organizational performance through the lenses of the Resource-Based View (RBV), Institutional Theory, and Stakeholder Theory. The analysis illustrates how GHRM practices-including green recruitment, training, performance management, and reward systems-foster a sustainability-oriented organizational culture that catalyzes Sustainable Innovation and enhances Sustainable Supply Chain Management (SSCM). Furthermore, the study examines the interaction between environmental, social, and economic dimensions of performance within the Triple Bottom Line (TBL) framework. The findings suggest that GHRM acts as a critical leverage point for achieving long-term competitive advantage and organizational resilience. This conceptual framework provides valuable insights for both scholars and practitioners in navigating the complexities of the green transformation in the modern business landscape.

Introduction

In the 21st century, global warming, the rapid depletion of natural resources, and the disruption of ecological balances have forced the business world to reconsider traditional profit-oriented growth models. Today, organizations are evaluated not only by their financial outputs but also by their environmental and social impacts. This paradigm shift has moved the

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concept of “sustainability” to the core of corporate strategies, highlighting the strategic role of human resources in implementing eco-friendly policies. In this context, GHRM serves as a critical bridge for achieving corporate environmental sustainability goals.

GHRM can be defined as the redesign of traditional human resource practices- ranging from recruitment and selection to training and performance management- through the lens of environmental sensitivity. Integrating “green” values into every stage of the HR function facilitates the transformation of organizational culture toward sustainability. However, GHRM is not merely an internal management practice; it is also a strategic lever that directly influences an organization’s innovation capacity and the efficiency of its supply chain processes.

In the literature, sustainability is often addressed within the framework of the Triple Bottom Line (TBL), emphasizing the holistic management of economic, social, and environmental dimensions. GHRM practices support these dimensions by increasing employees’ environmental awareness, thereby triggering Green Innovation and establishing the human capital necessary for the success of SSCM. Fundamental perspectives such as the RBV, Institutional Theory, and Stakeholder Theory provide a robust theoretical foundation for explaining how GHRM contributes to organizational performance and sustainable competitive advantage.

This work aims to analyze the conceptual framework, application areas, and theoretical underpinnings of Green Human Resource Management. Furthermore, it explores the interplay between GHRM, sustainable innovation, and supply chain management to evaluate the holistic impact of these processes on organizational performance. Within this scope, the strategic advantages and the challenges of embedding environmental sensitivity into corporate culture are discussed in light of current literature.

Conceptualizing Green Human Resource Management (GHRM) and Its Impact on Organizational Performance

GHRM is a strategic approach that plays a critical role in implementing environmental sustainability goals of organizations (Lashari et al., 2022). It can be considered a redesign of traditional HR practices considering environmental factors (Fiorini et al., 2024). The aim of this design is to ensure that employees adopt “green” values (Rubel et al., 2021). This approach both improves the financial performance of businesses and serves the implementation of sustainable policies that will minimize environmental and social impact in the long term (Kuo et al., 2022).

When it comes to sustainability, organizations must address economic, social, and environmental responsibilities in a holistic manner (Elkington, 1997). In this context, the integration of the HRM function with green practices facilitates the alignment of the organizational culture with sustainable values. The first step of this integration is “Green Recruitment & Selection,” which refers to the selection of people to be hired from candidates who have environmental values and sustainability awareness (Su et al., 2024). This is followed by “Green Training & Development” activities, which provide employees with both theoretical and practical content on topics such as waste management, energy saving, and reducing carbon footprint (Parng et al., 2021). In order to ensure that the “green” approach is established in the organization, performance management practices are also rearranged to include environmental indicators, and “Green Performance Management” encourages employees’ behaviors towards green practices (Ma et al., 2023). To encourage environmental responsibility within the organization, it is important to reward and recognize employees who demonstrate green performance in material or moral ways. The “Green Reward & Recognition” practice aims to create a positive competitive environment that encourages green thinking throughout the organization (Malik et al., 2020). Along with all these, it is also necessary to ensure the participation of employees in green processes. Including employees in decision-making mechanisms regarding environmentally friendly processes (Green Employee Involvement & Empowerment) supports the development of green innovation throughout the organization (Parng et al., 2021). As the final complementary stage, communication is a critical process in terms of adopting sustainability and environmental awareness within the organization. In this context, managers should keep green policies and practices on the agenda throughout the organization through regular information meetings or corporate bulletins and ensure the formation of open environmental communication and green culture (Kuo et al., 2022; Parng et al., 2021).

In the context of sustainability, GHRM aims to align the values and behaviors of employees with the organizational strategy. Encouraging employees to participate in green initiatives paves the way for the development of innovative and environmentally responsible ideas within the organization (Kanan et al., 2023; Lashari et al., 2022). In addition, various studies have shown that GHRM practices have positive effects on organizational performance and strengthen the reputation of businesses in the eyes of social stakeholders (Shahzad et al., 2023). Bringing in individuals with high environmental sensitivity to the organization in line with “green recruitment and selection” policies can accelerate a sustainability-oriented

transformation within the organization (Kanan et al., 2023). Similarly, “green training” programs increase employees’ knowledge and awareness of environmental issues and create a learning and development culture throughout the organization (Ahmad et al., 2023). Therefore, GHRM constitutes an important leverage point for sustainable innovation and the spread of green practices in supply chain management.

From an organizational performance perspective, GHRM contributes to more efficient management of processes by increasing the “green” awareness of employees within the organization. Employees’ sensitivity to environmental issues is increased through green training and development programs; this facilitates the effective adoption of practices such as energy saving, waste reduction, or recycling in the organization (Barakat et al., 2023). Thus, the organization provides advantages such as reducing operational costs and achieving a positive business image.

Including environmental indicators in performance management and reward systems motivates employees to develop and implement innovative environmental ideas (Malik et al., 2020). This innovation culture strengthens the competitive advantage of the company. In addition, with green HR policies, the organization becomes attractive in terms of employer brand. Qualified candidates who care about environmental values can show long-term commitment by choosing such an organization (Muisyo et al., 2022).

Sustainability is often addressed within the framework of the Triple Bottom Line (TBL) principle. Businesses should evaluate economic, environmental, and social dimensions in a holistic manner (Elkington, 1997). GHRM practices provide a strategic basis for businesses that want to make progress, especially in environmental and social dimensions (Kanan et al., 2023). Employees’ gaining habits that will reduce carbon footprint and adoption of green supply/recycling policies can be considered indicators that reveal how “green” businesses are in terms of environmental dimensions (Ahuja et al., 2019; Rasiah & Ren, 2023). In terms of social dimensions, indicators such as increasing employee participation in environmentally friendly practices, positive organizational culture, high employee commitment (Muisyo et al., 2022), and strengthening the perception of corporate social responsibility (CSR) regarding the business (Ziyadeh et al., 2023) are important in terms of the “green” business image. The “green” indicators of the economic dimension can be exemplified as cost optimization thanks to environmentally friendly practices and energy efficiency (Al-Hakimi et al., 2022), increasing market share through green product and service development, and access to new customer segments (Trujillo-Gallego et al., 2021).

The impact of GHRM practices on organizational performance can often occur through an indirect impact mechanism. This process can occur as GHRM shapes employee attitudes and behaviors; these attitudes and behaviors are positively reflected in the business processes in the organization, and as a result, an improvement in business performance and sustainability indicators occurs (Hameed et al., 2020). It also contributes to the relationships established with stakeholders. In this way, the company can spread environmentally friendly policies in its total value chain (Silveira Ramalho & De Fátima Martins, 2022).

Theoretical Underpinnings of GHRM in the Sustainability Context

The theoretical basis of GHRM practices can be explained through different theoretical perspectives. Among these, Resource-Based View (RBV), Institutional Theory, and Stakeholder Theory stand out. Each theory offers different perspectives on how organizations construct their strategies in the field of environmental sustainability and how they position their human resources in this process (Arulrajah & Opatha, 2016). The Resource-Based View emphasizes the importance of having rare, valuable, inimitable, and non-substitutable (Barney, 2000) resources in achieving sustainable competitive advantage for businesses. Human resources are seen as one of the most critical elements among these resources. GHRM practices create a “green” organizational culture by increasing the environmental awareness and skills of employees within the organization. This culture enables the organization to differentiate itself from its competitors and achieve a sustainable competitive advantage (Din et al., 2024). The knowledge and skills acquired by employees through green training and development programs can turn into an organizational competency that is difficult to imitate. Therefore, according to RBV, it is possible to say that GHRM has the potential to create a sustainable competitive advantage by strengthening the strategic resource portfolio of the organization (Agyabeng-Mensah & Tang, 2021).

Institutional Theory argues that organizations are forced to adopt certain practices due to environmental pressures, legal regulations, and social norms (Kara & Edinsel, 2023). Within this framework, GHRM practices can also be shaped as a response to regulatory and normative pressures. Government policies or international standards can direct or oblige businesses to adopt environmentally friendly management approaches (Tu et al., 2024). In addition, social expectations and stakeholder demands can also force organizations to develop green strategies (Hassis et al., 2023). Over time,

this obligation creates an isomorphism effect among organizations and contributes to the spread of GHRM practices (Anlesinya et al., 2022). In terms of institutional theory, it can be said that GHRM is an important mechanism that serves the goals of businesses to gain legitimacy and protect their reputation.

Stakeholder Theory (Freeman, 2010) argues that the expectations of all individuals, groups, and institutions who are affected by the activities of organizations or who can affect the activities of the organization should be taken into account. In this context, GHRM aims to respond to the demands and needs of internal and external stakeholders regarding sustainability (Le et al., 2022). From the perspective of employees, the implementation of environmentally friendly HR policies can increase commitment to the organization. Since customers are increasingly exhibiting conscious consumption trends, they may demand that businesses invest in “green” practices (El-Kassar & Singh, 2019). Thus, GHRM creates a sustainability-oriented value-sharing and communication bridge between the organization and stakeholders.

The Interplay of Sustainability, Innovation, and Sustainable Supply Chain Management

The concepts of sustainability and innovation have become two strategic topics that are increasingly intertwined in today’s business world. The increasing globalization of the competitive environment, scarcity of resources, and increasing sensitivity of stakeholders to environmental issues necessitate that businesses adopt both innovative and sustainable approaches (Al-Abbadi & Abu Rumman, 2023). While traditional innovation often zeroes in on economic benefits like gaining a competitive edge or cutting costs, sustainable innovation takes a broader view. When developing new products, processes, or services, it thoughtfully considers not just the economic outcomes, but also crucial environmental sustainability and social benefits (Kafetzopoulos, 2023; Shahzad et al., 2024).

This concept requires businesses to act not only with the mission of being “good corporate citizens” but also with the aim of gaining strategic resilience in the long term (Silveira Ramalho & De Fátima Martins, 2022). Sustainable innovation projects are often designed and implemented with the active participation of stakeholders (Shahzad et al., 2024). Thus, a more “open” and “participatory” innovation process emerges compared to traditional R&D models.

Sustainable innovation is defined in different ways in literature. Product-focused innovation includes the design of recyclable or low-energy products, while process-focused innovation focuses on waste minimization and green supply chain practices in production and logistics (Nikolova-Alexieva et al., 2022). Business model innovation refers to the transition from the “use-and-dispose” model to the “reuse” or “rent/service” model based on circular economy principles. In this context, sustainable innovation is not limited to technological innovations but also includes a comprehensive transformation such as organizational structure, business model, process management, and stakeholder relations (Al-Abbad & Abu Rumman, 2023).

The factors that encourage sustainable innovation are based on three main factors. First, legal regulations and standards are among the most important factors that force companies to develop environmental solutions (Barakat et al., 2023). Emission limitations, waste management regulations, and international standards such as ISO 14001 encourage companies to turn to sustainable innovation. Second, market dynamics and customer demands increase the interest in sustainable products and services in line with the increasing environmental awareness (Khan et al., 2023). Businesses that respond to green expectations gain a competitive advantage and increase their brand value. Some companies voluntarily invest in sustainable innovation in line with their corporate values. In particular, companies that adopt a social responsibility culture adopt environmentally focused strategies more strongly (Hassis et al., 2023).

However, there are also some obstacles to sustainable innovation. High costs and uncertain return on investment cause businesses to approach this area cautiously (Gadomska-Lila et al., 2024). In addition, resistance and cultural barriers within the organization make it difficult to abandon traditional ways of doing business and slow down the transformation (Ahuja et al., 2019). Lack of technological infrastructure and insufficient R&D capacity are also important obstacles, and they emerge as a more pronounced problem, especially in SMEs and developing countries (Gupta et al., 2023). The fact that sustainable innovation requires a multi-stakeholder structure can make coordination between suppliers, customers, government institutions, and civil society organizations a complex process.

Effective management of these processes requires businesses to have certain organizational capabilities. Dynamic capabilities play a critical role in adapting to changing environmental conditions and rapidly restructuring internal resources (Sabahi & Parast, 2023). In addition, stakeholder management and collaboration capabilities should be developed

for successful sustainable innovation strategies (Al-kalouti et al., 2020). Knowledge management and a strong R&D infrastructure both facilitate technology transfer and support intra-organizational learning (Smith et al., 2010). The adaptation of corporate culture to sustainable innovation and the leadership of top management in this direction are among the factors that determine the long-term success of businesses (Nidumolu et al., 2009).

SSCM aims to create long-term value for businesses by bringing together the principles of economic, environmental, and social responsibility (Silveira Ramalho & De Fátima Martins, 2022). Aiming to increase resource efficiency and minimize environmental impact in processes such as supply, production, logistics, and recycling, SSCM covers dimensions such as green logistics, reverse logistics, waste management, and green procurement (Cheng et al., 2023). While energy consumption and carbon emissions are reduced in logistics processes within the scope of green logistics, used products are recycled with reverse logistics (Graham et al., 2023). Waste management and green production practices make significant contributions in terms of both protecting the environment and reducing costs (Al-Hakimi et al., 2022).

The successful implementation of SSCM is directly related to the effective management of human resources. GHRM ensures the spread of an environmentally friendly culture within the organization and encourages the participation of employees in sustainable supply chain processes (Dahinine et al., 2024). Employee awareness and training, sustainability-oriented performance management, and reward systems are the basic elements that support the adoption of environmental goals (Setyadi et al., 2023). Supply chain managers ensure the spread of sustainable practices by directing the cooperation process between suppliers and distributors (Kara & Edinsel, 2023).

The success of SSCM is directly related to the integration of sustainability into the organizational culture. In order for environmentally friendly strategies to be permanent, top management must exhibit green leadership, and employees must be empowered in this direction (Ali et al., 2023). Cultural transformation within the organization not only reduces environmental impacts but also increases employee satisfaction and the reputation of the company, providing long-term competitive advantage (Kafetzopoulos, 2023). By adopting an approach focused on process improvement and innovation, businesses can make sustainable supply chain practices more efficient. The implementation of continuous improvement strategies, especially in areas such as production and logistics, provides both cost advantages and strengthens environmental performance.

The interaction between the concepts of GHRM, sustainable innovation and SSCM is seen as a strategic area for businesses to gain competitive advantage (Muafi & Adhyka Kusumawati, 2021). While green training and reward systems make employees more prone to environmental innovations (Barakat et al., 2023), stakeholder collaboration in supply chain processes accelerates the spread of innovation (Kara & Edinsel, 2023). Studies conducted at the intersection of GHRM, SSCM, and innovation highlight that this field is expanding (Silveira Ramalho & De Fátima Martins, 2022) but needs to be further deepened according to scale, sector, and regional differences.

The integration of GHRM, innovation and SSCM has the potential to increase the competitiveness of enterprises, as well as strengthen their corporate reputation and increase stakeholder satisfaction (Nigatu et al., 2024; Su et al., 2024; Zihan & Makhbul, 2024). The adoption of environmentally friendly supply chain practices helps organizations raise their sustainability standards and ensure long-term stakeholder trust (Alraja et al., 2022). Green human resources policies increase organizational learning and innovation capacity by promoting environmental training and sustainability-oriented performance management systems (Jabbour et al., 2015). Enterprises that develop their dynamic capabilities can better adapt to rapidly changing global market conditions and achieve sustainable growth goals (Kafetzopoulos, 2023).

This integration process brings with it some challenges as well as advantages. It may take time for employees to abandon traditional ways of doing business and turn to environmentally friendly practices, and failure of top management to lead the change may create resistance within the organization (Muduli et al., 2013). Harmony of different departments and cross-functional collaborations may be challenging for businesses with inadequate organizational structures (Muafi & Adhyka Kusumawati, 2021; Shahzad et al., 2024). Investments in environmentally friendly technologies, training programs and certification processes may be costly in the short term and may be an obstacle, especially for businesses with limited financial resources such as SMEs (Nikolova-Alexieva et al., 2022). The lack of performance measurement systems makes it difficult to track the success of the integration, as environmental and social gains cannot be evaluated as clearly as financial outcomes (Muduli et al., 2013). The complexity of global supply chains and ensuring stakeholder alignment require additional coordination and monitoring due to the differences in sustainability standards across countries (Nidumolu et al., 2009).

CONCLUSION AND RECOMMENDATIONS

This study has explored the multifaceted role of GHRM as a strategic driver for organizational sustainability, innovation, and performance. The conceptual analysis demonstrates that GHRM is far more than a set of environmental policies; it is a holistic management philosophy that aligns an organization's most valuable asset -its human capital- with the urgent demands of ecological responsibility.

The integration of green practices into recruitment, training, performance appraisal, and reward systems creates a robust organizational culture that fosters Sustainable Innovation. As evidenced by the RBV, the environmental competencies developed through GHRM serve as unique, inimitable resources that provide a long-term competitive advantage. Furthermore, GHRM acts as a critical enabler for SSCM, ensuring that environmental values are not localized within a single department but are disseminated across the entire value chain, from procurement to logistics.

Practical Implications for Managers

From a managerial perspective, the findings suggest that the transition to a “green” business model requires more than technological investment. It necessitates a cultural transformation led by top management. Organizations must:

- Prioritize Green Leadership to mitigate employee resistance and foster a sense of shared environmental mission.
- Utilize Green Reward Systems to motivate proactive environmental behaviors and innovative suggestions.
- Bridge the gap between HR and Supply Chain departments to ensure that environmental goals are synchronized across functional silos.

Limitations and Future Research

While the benefits of GHRM are significant, this study also acknowledges the challenges, particularly regarding short-term implementation costs and the complexity of measuring non-financial performance indicators. Future research should focus on long-term longitudinal studies to quantify the ROI of GHRM across different industries and geographic regions. Additionally, exploring the role of digital transformation (such as AI and Big Data) in enhancing the effectiveness of Green HR practices represents a promising avenue for further academic inquiry.

In conclusion, sustainability is no longer an optional “add-on” for corporations; it is a fundamental requirement for survival in the modern global market. By strategically embedding GHRM into their core operations, businesses can achieve the Triple Bottom Line goals of economic prosperity, environmental stewardship, and social well-being, ensuring resilience in an increasingly volatile world.

References

Agyabeng-Mensah, Y., & Tang, L. (2021). The relationship among green human capital, green logistics practices, green competitiveness, social performance and financial performance. *Journal of Manufacturing Technology Management*, 32(7), 1377–1398. <https://doi.org/10.1108/JMTM-11-2020-0441>

Ahmad, F., Hossain, M. B., Mustafa, K., Ejaz, F., Khawaja, K. F., & Dunay, A. (2023). Green HRM Practices and Knowledge Sharing Improve Environmental Performance by Raising Employee Commitment to the Environment. *Sustainability*, 15(6), 5040. <https://doi.org/10.3390/su15065040>

Ahuja, J., Panda, T. K., Luthra, S., Kumar, A., Choudhary, S., & Garza-Reyes, J. A. (2019). Do human critical success factors matter in adoption of sustainable manufacturing practices? An influential mapping analysis of multi-company perspective. *Journal of Cleaner Production*, 239, 117981. <https://doi.org/10.1016/j.jclepro.2019.117981>

Al-Abbadi, L. H., & Abu Rumman, A. R. (2023). Sustainable performance based on entrepreneurship, innovation, and green HRM in e-Business Firms. *Cogent Business & Management*, 10(1), 2189998. <https://doi.org/10.1080/23311975.2023.2189998>

Al-Hakimi, M. A., Al-Swidi, A. K., Gelaidan, H. M., & Mohammed, A. (2022). The influence of green manufacturing practices on the corporate sustainable performance of SMEs under the effect of green organizational culture: A moderated mediation analysis. *Journal of Cleaner Production*, 376, 134346. <https://doi.org/10.1016/j.jclepro.2022.134346>

Ali, M., Malik, M., Yaqub, M. Z., Chiappetta Jabbour, C. J., Lopes De Sousa Jabbour, A. B., & Latan, H. (2023). Green means long life - green competencies for corporate sustainability performance: A moderated mediation model of green organizational culture and top management support. *Journal of Cleaner Production*, 427, 139174. <https://doi.org/10.1016/j.jclepro.2023.139174>

Al-kalouti, J., Kumar, V., Kumar, N., Garza-Reyes, J. A., Upadhyay, A., & Zwiegelaar, J. B. (2020). Investigating innovation capability and organizational performance in service firms. *Strategic Change*, 29(1), 103–113. <https://doi.org/10.1002/jsc.2314>

Alraja, M. N., Imran, R., Khashab, B. M., & Shah, M. (2022). Technological Innovation, Sustainable Green Practices and SMEs Sustainable Performance in Times of Crisis (COVID-19 pandemic). *Information Systems Frontiers*, 24(4), 1081–1105. <https://doi.org/10.1007/s10796-022-10250-z>

Anlesinya, A., Ampsonah-Tawiah, K., Dartey-Baah, K., Adeti, S. K., & Brefo-Manuh, A. B. (2022). Institutional isomorphism and sustainable HRM adoption: A conceptual framework. *Industrial and Commercial Training*, 55(1), 62–76. <https://doi.org/10.1108/ICT-03-2021-0013>

Arulrajah, A. A., & Opatha, H. (2016). *Analytical and theoretical perspectives on green human resource management: A simplified underpinning*. <http://dr.lib.sjp.ac.lk/handle/123456789/5823>

Barakat, B., Milhem, M., Naji, G. M. A., Alzoraiki, M., Muda, H. B., Ateeq, A., & Abro, Z. (2023). Assessing the Impact of Green Training on Sustainable Business Advantage: Exploring the Mediating Role of Green Supply Chain Practices. *Sustainability*, 15(19), 14144. <https://doi.org/10.3390/su151914144>

Barney, J. B. (2000). Firm resources and sustained competitive advantage. In *Economics meets sociology in strategic management* (pp. 203–227). Emerald Group Publishing Limited. [https://www.emerald.com/insight/content/doi/10.1016/S0742-3322\(00\)17018-4/full/html](https://www.emerald.com/insight/content/doi/10.1016/S0742-3322(00)17018-4/full/html)

Cheng, Y., Masukujjaman, M., Sobhani, F. A., Hamayun, M., & Alam, S. S. (2023). Green Logistics, Green Human Capital, and Circular Economy: The Mediating Role of Sustainable Production. *Sustainability*, 15(2), 1045. <https://doi.org/10.3390/su15021045>

Dahinine, B., Laghouag, A., Bensahel, W., Alsolami, M., & Guendouz, T. (2024). Modelling the Combined Effect of Green Leadership and Human Resource Management in Moving to Green Supply Chain Performance Enhancement in Saudi Arabia. *Sustainability*, 16(10), 3953. <https://doi.org/10.3390/su16103953>

Din, A. U., Yang, Y., Yan, R., Wei, A., & Ali, M. (2024). Growing success with sustainability: The influence of green HRM, innovation, and competitive advantage on environmental performance in the manufacturing industry. *Helijon*, 10(10), e30855. <https://doi.org/10.1016/j.heliyon.2024.e30855>

El-Kassar, A.-N., & Singh, S. K. (2019). Green innovation and organizational performance: The influence of big data and the moderating role of management commitment and HR practices. *Technological Forecasting and Social Change*, 144, 483–498. <https://doi.org/10.1016/j.techfore.2017.12.016>

Elkington, J. (1997). The triple bottom line. *Environmental Management: Readings and Cases*, 2, 49–66.

Fiorini, P. C., Jabbour, C. J. C., Latan, H., De Sousa Jabbour, A. B. L., & Mariano, E. B. (2024). Green Emerging Digital Technologies, Green Supply Chains, and the Performance of Environmentally Friendly Firms: The Underpinning Role of Human Resources. *IEEE Transactions on Engineering Management*, 71, 13134–13148. <https://doi.org/10.1109/TEM.2022.3210470>

Freeman, R. E. (2010). *Strategic Management: A Stakeholder Approach*. Cambridge University Press.

Gadomska-Lila, K., Sudolska, A., & Łapińska, J. (2024). The importance of green competencies in advancing organizational sustainability: The empirical perspective. *Sustainable Development*, 32(1), 1152–1169. <https://doi.org/10.1002/sd.2729>

Graham, S., Cadden, T., & Treacy, R. (2023). Examining the influence of employee engagement in supporting the implementation of green supply chain management practices: A green human resource management perspective. *Business Strategy and the Environment*, 32(7), 4750–4766. <https://doi.org/10.1002/bse.3391>

Gupta, H., Shreshth, K., Kharub, M., & Kumar, A. (2023). Strategies to overcome challenges to smart sustainable logistics: A Bayesian-based group decision-making approach. *Environment, Development and Sustainability*, 26(5), 11743–11770. <https://doi.org/10.1007/s10668-023-03477-6>

Hameed, Z., Khan, I. U., Islam, T., Sheikh, Z., & Naeem, R. M. (2020). Do green HRM practices influence employees' environmental performance? *International Journal of Manpower*, 41(7), 1061–1079. <https://doi.org/10.1108/IJM-08-2019-0407>

Hassis, S. M., Othman, M. A., & Saleh, Y. (2023). The impact of total quality management on corporate sustainability in the manufacturing sector: Corporate social responsibility as a mediator. *The TQM Journal*, 35(8), 2572–2597. <https://doi.org/10.1108/TQM-08-2022-0259>

Kafetzopoulos, D. (2023). Environmental dynamism and sustainability: The mediating role of innovation, strategic flexibility and HR development. *Management Decision*, 61(6), 1697–1716. <https://doi.org/10.1108/MD-06-2022-0759>

Kanan, M., Taha, B., Saleh, Y., Alsayed, M., Assaf, R., Ben Hassen, M., Alshai-bani, E., Bakir, A., & Tunsi, W. (2023). Green Innovation as a Mediator between Green Human Resource Management Practices and Sustainable Performance in Palestinian Manufacturing Industries. *Sustainability*, 15(2), 1077. <https://doi.org/10.3390/su15021077>

Kara, K., & Edinsel, S. (2023). The mediating role of green product innovation (GPI) between green human resources management (GHRM) and green supply chain management (GSCM): Evidence from automotive industry companies in Turkey. *Supply Chain Forum: An International Journal*, 24(4), 488–509. <https://doi.org/10.1080/16258312.2022.2045873>

Khan, S. A. R., Tabish, M., & Zhang, Y. (2023). Embrace of industry 4.0 and sustainable supply chain practices under the shadow of practice-based view theory: Ensuring environmental sustainability in corporate sector. *Journal of Cleaner Production*, 398, 136609. <https://doi.org/10.1016/j.jclepro.2023.136609>

Kuo, Y.-K., Khan, T. I., Islam, S. U., Abdullah, F. Z., Pradana, M., & Kaewsaeng-on, R. (2022). Impact of Green HRM Practices on Environmental Performance: The Mediating Role of Green Innovation. *Frontiers in Psychology*, 13, 916723. <https://doi.org/10.3389/fpsyg.2022.916723>

Lashari, I. A., Li, Q., Maitlo, Q., Bughio, F. A., Jhatial, A. A., & Rashidi Syed, O. (2022). Environmental sustainability through green HRM: Measuring

the perception of university managers. *Frontiers in Psychology*, 13, 1007710. <https://doi.org/10.3389/fpsyg.2022.1007710>

Le, T. T., Vo, X. V., & Venkatesh, V. G. (2022). Role of green innovation and supply chain management in driving sustainable corporate performance. *Journal of Cleaner Production*, 374, 133875. <https://doi.org/10.1016/j.jclepro.2022.133875>

Ma, L., Zhang, X., & Dong, L. (2023). Enhancing Sustainable Performance: The Innovative Strategy of Digital Transformation Leading Green Collaborative Management. *Sustainability*, 15(17), 13085. <https://doi.org/10.3390/su151713085>

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), 3228. <https://doi.org/10.3390/su12083228>

Muafi, & Adhyka Kusumawati, R. (2021). A nexus between Green HRM (GHRM), Supply Chain Performance (SCP) and Business Performance (BP): The mediating role of Supply Chain Organizational Learning (SCOL). *Journal of Industrial Engineering and Management*, 14(2), 329. <https://doi.org/10.3926/jiem.3339>

Muduli, K., Govindan, K., Barve, A., Kannan, D., & Geng, Y. (2013). Role of behavioural factors in green supply chain management implementation in Indian mining industries. *Resources, Conservation and Recycling*, 76, 50–60. <https://doi.org/10.1016/j.resconrec.2013.03.006>

Muisyo, P. K., Qin, S., Julius, M. M., Ho, T. H., & Ho, T. H. (2022). Green HRM and employer branding: The role of collective affective commitment to environmental management change and environmental reputation. *Journal of Sustainable Tourism*, 30(8), 1897–1914. <https://doi.org/10.1080/09669582.2021.1988621>

Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). Why sustainability is now the key driver of innovation. *Harvard Business Review*, 87(9), 56–64.

Nikolova-Alexieva, V., Alexieva, I., Valeva, K., & Petrova, M. (2022). Model of the Factors Affecting the Eco-Innovation Activity of Bulgarian Industrial Enterprises. *Risks*, 10(9), 178. <https://doi.org/10.3390/risks10090178>

Parng, Y.-J., Kurrahman, T., Chen, C.-C., Tseng, M. L., Minh Hà, H., & Lin, C.-W. (2021). Visualizing the hierarchical sustainable human resource management under qualitative information and complex interrelationships. *Management of Environmental Quality: An International Journal*, 32(6), 1422–1447. <https://doi.org/10.1108/MEQ-04-2021-0086>

Rubel, M. R. B., Kee, D. M. H., & Rimi, N. N. (2021). The influence of green HRM practices on green service behaviors: The mediating effect of green

knowledge sharing. *Employee Relations: The International Journal*, 43(5), 996–1015. <https://doi.org/10.1108/ER-04-2020-0163>

Sabahi, S., & Parast, M. M. (2023). An operations and supply chain management perspective to product innovation. *Operations Management Research*, 16(2), 808–829. <https://doi.org/10.1007/s12063-022-00339-8>

Setyadi, A., Akbar, Y. K., Ariana, S., & Pawirosumarto, S. (2023). Examining the Effect of Green Logistics and Green Human Resource Management on Sustainable Development Organizations: The Mediating Role of Sustainable Production. *Sustainability*, 15(13), 10667. <https://doi.org/10.3390/su151310667>

Shahzad, M. A., Du, J., Junaid, M., & Shahzad, F. (2024). From green HRM practices to green innovation performance: A mediation-moderation model. *Journal of Environmental Planning and Management*, 1–26. <https://doi.org/10.1080/09640568.2023.2284656>

Silveira Ramalho, T., & De Fátima Martins, M. (2022). Sustainable Human Resource Management in the Supply Chain: A new framework. *Cleaner Logistics and Supply Chain*, 5, 100075. <https://doi.org/10.1016/j.clsn.2022.100075>

Smith, A., Voß, J.-P., & Grin, J. (2010). Innovation studies and sustainability transitions: The allure of the multi-level perspective and its challenges. *Research Policy*, 39(4), 435–448. <https://doi.org/10.1016/j.respol.2010.01.023>

Su, W., Bataa, B., & Hahn, J. (2024). Does green human resources management (GHRM) promote employee environmental performance? A multilevel time-lagged study from Mongolia. *Journal of Environmental Planning and Management*, 67(10), 2135–2156. <https://doi.org/10.1080/09640568.2023.2198666>

Trujillo-Gallego, M., Sarache, W., & Sellitto, M. A. (2021). Identification of practices that facilitate manufacturing companies' environmental collaboration and their influence on sustainable production. *Sustainable Production and Consumption*, 27, 1372–1391. <https://doi.org/10.1016/j.spc.2021.03.009>

Tu, Y., Lu, L., & Wang, S. (2024). Environmental regulations, GHRM and green innovation of manufacturing enterprises: Evidence from China. *Frontiers in Environmental Science*, 12. <https://doi.org/10.3389/fenvs.2024.1308224>

Zihan, W., & Makhbul, Z. K. M. (2024). Green Human Resource Management as a Catalyst for Sustainable Performance: Unveiling the Role of Green Innovations. *Sustainability*, 16(4), 1453. <https://doi.org/10.3390/su16041453>

Ziyadeh, M. W., Othman, M., & Zaid, A. A. (2023). Effects of green human resource management on organisational sustainability: The mediating role of corporate social responsibility and organisational citizenship behaviour. *International Journal of Organizational Analysis*, 32(2), 357–372. <https://doi.org/10.1108/IJOA-11-2022-3506>