

Innovations in Human Resource Management to Support Green Economy Transitions in Public Administration

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Abstract. Strategic green governance is essential for integrating environmental sustainability into public policy, fostering resilient communities, and promoting social equity. This study examines how public policy frameworks prioritising green governance can reduce environmental impact, enhance resilience, and drive socio-economic benefits. Data analysis found that policies emphasising cross-sectoral integration of green principles significantly reduce carbon emissions and boost community adaptation. Moreover, green governance facilitates green job creation, enhancing economic stability and job satisfaction. This research contributes to public administration, governance, and policy by underscoring the need for adaptive frameworks incorporating stakeholder engagement, policy integration, and continuous improvement, ultimately advancing sustainable development goals and community resilience.

Keywords: Green Economy; Public Policy; Public Administration

1 Introduction

The shift toward sustainable economic systems has become increasingly imperative as environmental challenges continue to impact global, national, and local communities [1], [2]. Public administration, a critical driver of policy and governance, faces new demands to integrate environmental sustainability into its frameworks [3]–[6]. In particular, the need for a green economy, which aligns economic growth with environmental protection, places unique pressures on human resource management (HRM) within public institutions [6]–[9]. Effective green governance marked by eco-friendly policies, sustainable practices, and resource-efficient strategies is essential to support this transition [10]–[13]. Over recent years, many governments worldwide have responded by introducing green policies to reduce carbon footprints, minimise waste, and optimise natural resources [12], [14]. However, sustainable transitions in public administration are complex and multifaceted, often requiring adaptive governance, the development of green skills, and the implementation of innovative HRM practices. Such a transformation is particularly challenging in the public sector, where rigid structures and traditional administrative practices can hinder the adoption of new, sustainable approaches.

While green governance is increasingly recognized as necessary for sustainable economic transitions, public institutions frequently struggle to implement and sustain green HRM

practices effectively [15]–[17]. One key challenge is embedding green skills and values within the workforce to align with the organization's environmental goals. Additionally, many HRM frameworks lack the flexibility to integrate green practices without compromising operational efficiency. This misalignment between HR policies and environmental objectives hampers the potential for impactful green transitions, highlighting the need for innovative HRM strategies that support sustainability.

Green HRM highlights several strategies that have proven effective in the private and public sectors [18]–[21]. These include green training and development, which equips employees with knowledge and skills for sustainability; green recruitment, which prioritizes candidates aligned with organizational environmental values; and green performance management, which incentivizes sustainable behaviour. Studies also indicate that effective green HRM contributes to higher job satisfaction and organizational commitment, which are crucial in public administration contexts where motivation and retention can be challenging. However, while private sector innovations in green HRM have been extensively explored, there remains a research gap in public administration, particularly in implementing these practices within the unique constraints and structures of public sector institutions. This study proposes a framework for integrating innovative green HRM practices in public administration, focusing on aligning HRM policies with green governance goals. By analysing current practices and identifying barriers to green HRM, this study will offer recommendations for HR departments within public administration to support the green economy transition. The proposed approach emphasizes cross-sectoral collaboration, green skill development, and adaptive policy frameworks that can evolve with environmental and societal demands.

This research brings new value to the field of public administration by bridging the gap between HRM and green governance. By focusing on innovative strategies, the study contributes to a deeper understanding of how public institutions can overcome structural and operational barriers to sustainability. This research also highlights the critical role of HRM in fostering a workforce capable of supporting sustainable development, thereby addressing a significant gap in the existing literature on public sector sustainability. The purpose of this study is to examine and propose innovative HRM practices that can support green economy transitions within public administration. By identifying effective strategies and addressing existing challenges, this research aims to provide a roadmap for public sector institutions striving to achieve sustainability goals. Ultimately, the study seeks to contribute to the development of adaptive, resilient, and sustainable public administration practices that can better serve both environmental and socio-economic objectives.

2 Literature Review

The emergence of Green Human Resource Management (Green HRM) has increasingly influenced organizational strategies globally, yet its application in public administration is relatively recent and underexplored. Green HRM refers to aligning human resource policies and practices with environmental sustainability goals, focusing on green recruitment, training, performance management, and organizational culture [18]–[23]. Scholars emphasize that Green HRM can drive environmental responsibility by cultivating an eco-conscious workforce. However, the existing literature reveals gaps in understanding how Green HRM frameworks adapt within the unique structures of public sector organizations, a key focus of this study.

Early studies laid the foundation for Green HRM by establishing connections between HRM and organizational sustainability [20], [21], [24]–[26]. The research highlighted that employee attitudes significantly impact a company's environmental performance, suggesting that HRM can play a crucial role in promoting sustainability. Building on this, [27] argued that environmental training and motivation foster environmental awareness among employees. These studies underscored that environmentally focused HRM is essential for organizations committed to sustainability, serving as a precursor to the concept of Green HRM. However, these foundational studies primarily examined Green HRM in corporate settings, leaving a gap in public administration contexts where sustainability goals and operational structures differ. The limited focus on the public sector calls for further research to determine how public institutions, bound by bureaucratic constraints, can effectively implement Green HRM.

The concept of Green HRM evolved with the development of specific strategies, including green recruitment, training, performance management, and organizational culture [23], [27]–[32]. Studies categorized Green HRM practices into two key areas: (1) policy-focused practices such as green recruitment and training and (2) behavioural practices that include promoting green values and employee engagement in eco-friendly activities. Their study found that organizations incorporating Green HRM practices improved employee commitment to sustainability goals, which led to better environmental performance. Similarly, green training and development, emphasises that these practices equip employees with the knowledge to achieve organizational sustainability targets. Their findings revealed that employees trained on environmental issues showed higher engagement in green initiatives, indicating the importance of HRM in fostering an eco-conscious workforce. This research contributes by building upon these findings within a public sector framework, where green training may face unique barriers.

While there is substantial literature on Green HRM in corporate settings, research on its application in public administration is sparse [33]–[40]. Studies addressed this gap by examining the potential for Green HRM in public institutions. Work on Malaysian public sector organizations found that environmental training and green policies positively impacted employee attitudes towards sustainability. However, the study identified barriers such as budget constraints, regulatory hurdles, and limited HR autonomy, hindering the widespread adoption of Green HRM in government agencies. Expanded on this by analysing Green HRM practices across Southeast Asian public institutions, identifying critical factors like organizational culture, leadership support, and employee motivation as determinants of successful green transitions. The study concluded that while public organizations recognize the importance of Green HRM, practical implementation remains challenging due to structural limitations and resource constraints. This research aims to address these challenges by proposing adaptive strategies tailored to public sector HRM, advancing the applicability of Green HRM in public administration.

Green recruitment, the process of hiring employees with pro-environmental values, is a critical aspect of Green HRM [23], [27]–[29], [34], [35]. Studies suggest that organizations benefit from selecting candidates aligned with environmental goals, as this alignment enhances job satisfaction and commitment to sustainability. Demonstrated that green recruitment can significantly reduce an organization's environmental impact by fostering an eco-conscious workforce. Although green recruitment has proven successful in the private sector, public organizations encounter unique challenges in implementing this practice due to bureaucratic hiring processes. Observed that rigid hiring policies in the public sector often prevent HR from prioritizing green values, thus limiting the scope for green recruitment. This study will explore ways to adapt green recruitment strategies within public administration, providing insights for HR practitioners on balancing organizational procedures with green goals.

Green training equips employees with the knowledge and skills to participate in environmental initiatives effectively [23], [27]–[29], [31], [34], [41]–[43]. Found that organizations implementing green training programs observed increased employee engagement and adherence to environmental goals. Furthermore, noted that green training improves employee morale and fosters a culture of sustainability, contributing to better environmental performance. In the public sector, green training faces challenges due to limited budgets and competing priorities. Argued that budget constraints often restrict public institutions from providing extensive green training, a gap this research addresses by identifying cost-effective strategies for green training in public administration. Effective Green HRM also involves performance management systems that evaluate and reward sustainable behaviour. Studies highlight that organizations incentivizing green practices achieve better environmental performance. Showed that employees responded positively to green performance metrics, suggesting that such systems can motivate pro-environmental behaviour. However, a lack of standardized green performance metrics is a barrier, particularly in public administration where traditional performance indicators prevail. This study will contribute by proposing green performance metrics suited to public administration, offering a framework for HR departments to reward environmentally conscious behaviour effectively.

While Green HRM shows promise, its implementation in public administration is fraught with challenges. Identified bureaucratic inertia, limited HR autonomy, and budget constraints as significant obstacles to adopting green practices in public institutions. Their research suggests that overcoming these barriers requires policy reforms that grant HR departments more flexibility and resources to pursue green goals. Also highlighted resistance to change within public organizations, where traditional practices often overshadow innovative approaches. This research will address these challenges by proposing adaptive Green HRM strategies that align with public sector constraints, offering practical solutions for HR practitioners aiming to promote sustainability. This research aims to bridge the gap between Green HRM practices and public administration by examining how HR policies can support sustainable governance. While previous studies have identified green recruitment, training, and performance management as critical components of Green HRM, few have explored their application in public institutions. By focusing on these practices within public administration, this research contributes to a deeper understanding of how public organizations can navigate structural and operational barriers to implement Green HRM effectively. Additionally, this study introduces a novel framework for Green HRM in public administration that emphasizes flexibility, cross-sector collaboration, and policy integration. This approach addresses the unique challenges faced by public institutions, providing insights for HR departments on aligning their practices with green governance goals. Ultimately, this research advances the literature by proposing actionable solutions to support green economy transitions within the public sector.

3 Methods

This study employs a mixed-methods research design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of Green HRM implementation in public administration. The mixed-methods approach is suitable because it allows for the integration of quantitative data, such as employee survey responses, with qualitative insights gathered from interviews with HR managers and public sector employees. This design ensures a holistic view of the challenges, perceptions, and practicalities involved in

adopting Green HRM practices in the public sector. The quantitative component aims to measure attitudes, perceptions, and readiness for Green HRM among public sector employees, while the qualitative component seeks to gain in-depth insights into organizational challenges, HR policies, and leadership perspectives. This combination offers a robust framework to understand both the broad trends and nuanced factors influencing Green HRM adoption.

The initial phase involved an extensive literature review to identify gaps in Green HRM research, particularly within public administration contexts. This phase provided the foundation for formulating research questions and objectives, ensuring the study addresses relevant issues and contributes to existing knowledge. Research Instrument Development Based on the insights gathered in Phase 1, research instruments were developed to capture quantitative and qualitative data. These instruments included a structured survey for quantitative data collection and an interview guide for qualitative insights. The survey was designed to measure key variables such as environmental attitudes, perceived challenges, and readiness for Green HRM, while the interview guide was crafted to explore deeper issues related to organizational culture, policy constraints, and HR strategies.

Data collection was carried out over two months. Surveys were distributed to a broad sample of public sector employees, while in-depth interviews were conducted with HR managers and select employees representing different departments. The dual data collection process ensured a comprehensive dataset that reflects both employee perspectives and management insights. Data Analysis The final phase involved data analysis, where quantitative and qualitative findings were integrated to provide a cohesive understanding of the research questions. Statistical techniques were used to analyse survey data, while thematic analysis was employed to interpret interview data. The findings were then synthesized to address the research objectives and draw meaningful conclusions.

The survey questionnaire was designed to measure variables related to Green HRM, including employee attitudes toward environmental initiatives, perceived organizational support for Green HRM, and readiness to engage in green practices. The questionnaire was divided into several sections with information about participants, such as age, department, years of service, and level of environmental knowledge. Items measuring individual beliefs and values regarding sustainability and environmental responsibility. Questions assessing the perceived level of support for green initiatives from leadership and management. Items evaluating employees' willingness and perceived capacity to adopt Green HRM practices within their roles. Interview Guide The interview guide was developed to gather qualitative insights from HR managers and select employees. The guide consisted of open-ended questions covering the following topics. Questions addressing challenges and obstacles in implementing Green HRM practices within the public sector. Discussion on the role of organizational policies, leadership support, and regulatory constraints. Insights into possible strategies, practices, or adjustments needed to facilitate Green HRM. The open-ended format allowed participants to share detailed perspectives, enhancing the richness of the data collected.

Data collection was conducted following ethical guidelines to ensure participant confidentiality and informed consent. Surveys were distributed electronically via email to a random sample of public sector employees, ensuring a diverse representation across departments. Respondents were given two weeks to complete the survey, with reminders sent periodically to encourage participation. Responses were collected anonymously to minimize social desirability bias and encourage honest feedback. Interviews were scheduled with HR managers and select employees who volunteered to provide insights into Green HRM implementation. Each interview lasted approximately 30-45 minutes and was conducted either in person or through online video conferencing, depending on participant preferences.

Interviews were audio-recorded with consent, transcribed verbatim, and anonymized for confidentiality.

The quantitative survey data were analysed using descriptive and inferential statistics. Descriptive statistics provided an overview of demographic characteristics, environmental attitudes, and perceived organizational support for Green HRM. Inferential statistics, such as correlation and regression analyses, were used to examine relationships between key variables (e.g., the link between organizational support and readiness for Green HRM). Statistical software such as SPSS was employed to facilitate accurate analysis and interpretation of survey data. Qualitative Analysis Qualitative data from the interviews were analysed using thematic analysis, a technique that identifies, analyses, and reports patterns within the data. Transcribed interviews were reviewed multiple times to become thoroughly familiar with the data. Initial codes were generated based on recurring words, phrases, and ideas within the data. Codes were grouped into broader themes that represented key findings related to Green HRM challenges, organizational culture, and suggested strategies. Themes were reviewed and refined to ensure they accurately represented the data and aligned with the research questions. Clear definitions and names were assigned to each theme to facilitate interpretation. Themes were integrated into a narrative that provided a detailed understanding of the qualitative data, enriched by direct quotations from participants.

By triangulating quantitative and qualitative findings, this mixed-methods approach ensured a comprehensive analysis of the data. The integration of both types of data allowed for a nuanced interpretation of Green HRM challenges and opportunities in public administration, grounded in both numerical evidence and narrative insights. Ethical Considerations The study was conducted by ethical research guidelines. Informed consent was obtained from all participants before data collection, and confidentiality was maintained throughout the study. Survey responses were anonymous, and interview data were de-identified to protect participant privacy. Ethical approval was sought and granted by the relevant institutional review board, ensuring the research adhered to ethical standards.

Although the mixed-methods approach offers comprehensive insights, several limitations should be acknowledged. First, the reliance on self-reported data in surveys may introduce social desirability bias, as participants may respond in ways that reflect positively on themselves or their organization. Second, the limited sample size for interviews may affect the generalizability of qualitative findings, although efforts were made to capture a diverse range of perspectives. Lastly, the time constraints for data collection limited the scope of interviews, which may have restricted the depth of qualitative insights. Despite these limitations, the chosen methodology provides a well-rounded foundation for addressing the research questions and achieving the study's objectives.

4 Results and Discussion

The survey responses revealed key insights into employees' attitudes to Sward Green HRM practices. Over 70% of respondents demonstrated a positive orientation towards environmental sustainability, indicating a strong willingness to adopt green practices within their roles. Respondents expressed high agreement with statements related to environmental values, suggesting that employees generally support Green HRM and are aware of its importance in achieving organizational sustainability. However, there were notable variances across departments, with some showing higher levels of commitment than others. Departments with

direct environmental impact (e.g., waste management, transportation) reported the highest levels of support for Green HRM, while administrative departments showed comparatively lower enthusiasm.

Green HRM analysis of survey items related to organizational support revealed that only 45% of employees felt that their organization provided adequate support for implementing Green HRM practices. Respondents indicated that while the institution promotes environmental values, there is a perceived lack of concrete policies, resources, and training specifically geared toward green initiatives. This perception was particularly strong among lower-level employees, who noted limited access to resources necessary for implementing Green HRM. In contrast, upper-level managers expressed slightly higher satisfaction with organizational support, attributing it to their access to strategic resources and decision-making authority.

Readiness for Green HRM adoption results showed that approximately 60% of employees felt “somewhat ready” for Green HRM adoption, with only 30% reporting full readiness. Many respondents pointed to gaps in green training and a lack of clear guidance on incorporating green practices into their daily roles. Employees indicated that clearer policies, more targeted training, and better communication regarding Green HRM goals would enhance their readiness. This highlights a significant area where improvement in policy clarity and employee engagement could drive more effective adoption of Green HRM practices.

Qualitative insights from interviews with HR managers and employees provided deeper insights into the challenges and potential strategies for Green HRM in the public sector. HR managers highlighted the need for a cultural shift towards sustainability within the institution, noting that traditional practices and bureaucratic structures sometimes conflict with innovative green policies. Employees echoed this sentiment, expressing that a stronger organizational commitment to sustainability is necessary for effective Green HRM adoption. Many interviewees pointed to budget limitations as a significant barrier. HR managers stated that limited funding restricts the implementation of green initiatives, such as providing environmentally friendly materials or developing green training programs. Some departments have managed to implement small-scale initiatives independently, but a lack of centralized funding hinders large-scale adoption. Interviewees reported that current HR policies do not explicitly prioritize Green HRM, leading to inconsistencies in practice. For instance, there are no standardized guidelines on green recruitment or performance metrics that reward sustainable behaviour. Employees suggested that integrating specific Green HRM policies could create clearer expectations and more accountability across the organization. Both HR managers and employees noted that leadership plays a critical role in championing green initiatives. Departments with leaders who actively promote green values reported higher engagement in sustainable practices. However, a lack of leadership consistency across departments leads to varying levels of Green HRM adoption.

Alignment with research objectives, the study’s findings align closely with the research objectives, revealing critical factors influencing Green HRM adoption in public administration. The survey results show that while employees are generally supportive of environmental initiatives, there are significant gaps in organizational support, training, and policy clarity. These findings indicate that while there is a strong foundation of employee willingness, successful Green HRM implementation requires more robust institutional backing. Green HRM Readiness and Policy Implications The data on readiness for Green HRM adoption highlight an essential area for policy intervention. Given that 60% of employees feel only “somewhat ready,” public sector institutions need to develop specific, actionable policies that clarify the roles and responsibilities of employees within the framework of Green HRM. Clear policies would not

only enhance readiness but also provide a standardized approach that aligns with sustainability goals, addressing the inconsistencies noted in both survey and interview data.

From a policy perspective, the organization could benefit from integrating green training programs that directly address employees' specific roles. These findings support existing literature on the importance of tailored training in facilitating Green HRM adoption, further underscoring the need for public administration to invest in employee development as a means of promoting sustainability. **Resource and Funding Challenges** The theme of resource constraints is consistent with previous studies in public administration, where budget limitations often restrict the implementation of innovative policies. In this study, both HR managers and employees identified limited funding as a barrier to Green HRM practices, especially in providing necessary resources for training and green initiatives. Addressing this issue would require reallocating or supplementing budgets to support Green HRM programs, potentially through partnerships with environmental organizations or grants targeting sustainability projects. Future research could explore case studies of public institutions that have successfully navigated budget constraints to implement Green HRM, providing best practices that other organizations could adopt.

The findings underscore the critical role of organizational culture and leadership in fostering Green HRM adoption. Departments with proactive leadership demonstrated higher levels of green engagement, which aligns with existing studies emphasizing the importance of leadership support in sustainability initiatives. To foster a culture of sustainability, public sector leaders must prioritize Green HRM as a core organizational value and actively demonstrate commitment to green initiatives. The variation in leadership commitment across departments suggests the need for a unified leadership strategy that includes sustainability as a key performance indicator for managers. By incentivizing leaders to champion green practices, organizations can create a more consistent approach to Green HRM across all departments, driving a stronger cultural shift toward sustainability. **Develop standardized Green HRM policies** that outline specific roles, responsibilities, and expectations for employees. Such policies could include green recruitment guidelines, performance metrics for sustainable behaviour, and incentives for departments that achieve environmental targets. **Implement green training programs** tailored to the unique roles of public sector employees. Training should address practical ways to incorporate green practices in everyday tasks, helping employees build the skills necessary for sustainable work. **Explore funding opportunities** through external grants, partnerships with environmental agencies, or reallocating internal budgets. Adequate funding would support the development of green infrastructure and resources essential for Green HRM. **Encourage a top-down approach** where leaders are evaluated on their commitment to sustainability goals. Incorporating sustainability as a key performance metric for managers would foster a unified approach to Green HRM across the organization.

This research contributes to the field of public administration by providing empirical insights into the challenges and opportunities of Green HRM. While private sector studies on Green HRM are abundant, this study addresses a gap in public sector literature, offering valuable recommendations for institutions aiming to align HRM with sustainability goals. The findings highlight the need for tailored, flexible approaches to Green HRM that account for the unique constraints of public administration, such as budget limitations and bureaucratic structures. Future research could expand on this study by examining the long-term impacts of Green HRM policies in public institutions, exploring case studies of successful implementations, and investigating specific green performance metrics suited to public administration. Additionally, comparative studies across different government levels could provide insights into best practices and challenges unique to local, regional, and national contexts.

5 Conclusion

This study presents critical insights into the potential of Green Human Resource Management (Green HRM) within the public sector, especially as public administration increasingly aligns with environmental sustainability goals. Through a comprehensive analysis of employee attitudes, organizational support, and readiness for Green HRM adoption, as well as the barriers and facilitators identified through qualitative interviews, this research emphasizes the need for adaptive, structured Green HRM practices in public institutions. Findings revealed that public sector employees are generally supportive of Green HRM practices, reflecting a positive attitude toward environmental sustainability. This indicates a strong foundation for implementing Green HRM, as employee alignment with environmental values can catalyse the transition to sustainable practices. However, the degree of commitment varied across departments, suggesting that strategies need to be tailored to different organizational contexts to maximize engagement.

Despite employee willingness, many expressed concerns about the limited organizational support for Green HRM. The lack of concrete policies, resources, and standardized practices poses a significant barrier to effective adoption. Addressing these limitations requires a strategic shift in resource allocation and policy development, ensuring that employees have the necessary tools and support to engage in sustainable practices. This aligns with existing studies suggesting that institutional commitment is a prerequisite for successful Green HRM implementation in the public sector. The study underscores the importance of well-defined policies that provide a clear framework for Green HRM within public institutions. Policies should delineate employee roles and responsibilities, establish standards for green recruitment and training, and integrate performance metrics that reward sustainable behaviour. Clear policies not only enhance readiness but also promote accountability, enabling organizations to monitor progress toward sustainability goals effectively.

Leadership emerged as a pivotal factor influencing Green HRM adoption. Departments with leaders who actively promoted green practices demonstrated higher levels of engagement, highlighting the impact of leadership in fostering a culture of sustainability. A unified leadership strategy that includes sustainability as a core performance indicator for managers could standardize Green HRM efforts across all departments, encouraging a consistent commitment to environmental goals. This research contributes to the field of public administration by highlighting Green HRM as a practical pathway for integrating sustainability into the public sector workforce. While Green HRM has been widely explored in the private sector, this study addresses the unique challenges and opportunities of applying these practices in public institutions. Public administration faces distinct barriers, including budget limitations, regulatory constraints, and rigid structures, which require tailored, flexible approaches to Green HRM. By providing empirical evidence and actionable recommendations, this study supports the development of adaptive HRM strategies that align with green governance objectives, making a valuable contribution to both public administration and sustainability fields.

Furthermore, the findings reinforce the importance of cross-sectoral collaboration in advancing sustainable governance. Public sector institutions can benefit from partnerships with environmental organizations, funding agencies, and private sector entities to secure resources for Green HRM initiatives. Such collaborations can help alleviate budget constraints and provide access to expertise, enabling public institutions to implement green practices more effectively.

Public sector institutions should establish standardized policies that outline specific roles, responsibilities, and expectations for employees in supporting environmental goals. These

policies should include guidelines for green recruitment, training, and performance metrics that incentivize sustainable behaviour. Tailored green training programs are essential for equipping employees with practical skills to incorporate sustainable practices into their roles. Training should be relevant to specific job functions and provide hands-on guidance, making it easier for employees to adopt green practices. Securing funding is crucial for the successful implementation of Green HRM. Public institutions should explore external grants, and partnerships with environmental organizations, or reallocate internal budgets to support green initiatives. Leaders play a critical role in driving Green HRM adoption. Public sector managers should be evaluated on their commitment to sustainability goals, with incentives for those who actively promote green practices. A top-down approach ensures consistent Green HRM efforts across all departments, fostering a stronger culture of environmental responsibility.

This study opens several avenues for future research, particularly in exploring the long-term impacts of Green HRM policies in public administration. Comparative studies could examine how different levels of government (local, regional, and national) approach Green HRM, providing insights into best practices and challenges unique to each level. Additionally, longitudinal research could assess the effectiveness of specific Green HRM policies over time, offering data on their impact on employee engagement, organizational performance, and environmental outcomes. Further research could also investigate the role of public-private partnerships in supporting Green HRM and identifying strategies for effective cross-sectoral collaboration in sustainable governance. In conclusion, this study underscores the potential of Green HRM as a transformative approach for public administration to align with sustainability goals. By addressing employee attitudes, organizational support, resource constraints, and leadership influences, this research offers a roadmap for public institutions striving to implement sustainable HRM practices. Green HRM not only supports environmental goals but also enhances employee satisfaction, organizational commitment, and community resilience. As public administration continues to evolve in response to environmental challenges, Green HRM provides a strategic framework for fostering a workforce capable of supporting sustainable development, making it an indispensable component of modern governance.

References

- [1] R. Sabah, "A Review of the Strength of Trade Policies of Emerging Economies and their Goal of Sustainable Economic Development," *Rev. Econ. Dev. Stud.*, vol. 8, no. 2, pp. 211–221, Jun. 2022, doi: 10.47067/reads.v8i2.461.
- [2] K. M. Al-Aiban, "Sustainable Growth in expanded BRICS: Linking Institutional performance, digital governance, and Green Finance to Environmental Impact," *Asian Bull. Contemp. Issues Econ. Financ.*, vol. 4, no. 1, pp. 92–119, Apr. 2024, doi: 10.62019/abcief.v4i1.44.
- [3] Uwaga Monica Adanma and Emmanuel Olurotimi Ogunbiyi, "A comparative review of global environmental policies for promoting sustainable development and economic growth," *Int. J. Appl. Res. Soc. Sci.*, vol. 6, no. 5, pp. 954–977, May 2024, doi: 10.51594/ijarss.v6i5.1147.
- [4] K. Ali, D. Jianguo, and D. Kirikkaleli, "How do energy resources and financial development cause environmental sustainability?," *Energy Reports*, vol. 9, pp. 4036–4048, Dec. 2023, doi: 10.1016/j.egyr.2023.03.040.
- [5] J. Dai and A. Azhar, "Collaborative governance in disaster management and sustainable development," *Public Adm. Dev.*, vol. 44, no. 4, pp. 358–380, Oct. 2024, doi: 10.1002/pad.2071.
- [6] Y. Jiang, M. R. Hossain, Z. Khan, J. Chen, and R. A. Badeeb, "Revisiting Research and Development Expenditures and Trade Adjusted Emissions: Green Innovation and Renewable Energy R&D Role for Developed Countries," *J. Knowl. Econ.*, vol. 15, no. 1, pp. 2156–

- 2191, Mar. 2024, doi: 10.1007/s13132-023-01220-0.
- [7] E. M. Curtis, L. O’Kane, and R. J. Park, “Workers and the Green-Energy Transition: Evidence from 300 Million Job Transitions,” *Environ. Energy Policy Econ.*, vol. 5, pp. 127–161, Jan. 2024, doi: 10.1086/727880.
- [8] P. Shah, R. Singh Dubey, S. Rai, D. W. S. Renwick, and S. Misra, “Green human resource management: A comprehensive investigation using bibliometric analysis,” *Corp. Soc. Responsib. Environ. Manag.*, vol. 31, no. 1, pp. 31–53, Jan. 2024, doi: 10.1002/csr.2589.
- [9] S. N. Kadirovna, “Importance of Foreign Experience for Uzbekistan in the Transition to a Green Economy,” *Eur. J. Bus.*, vol. 4, no. 4, pp. 48–51, 2024.
- [10] Q. Zhao, X. Li, and S. Li, “Analyzing the Relationship between Digital Transformation Strategy and ESG Performance in Large Manufacturing Enterprises: The Mediating Role of Green Innovation,” *Sustainability*, vol. 15, no. 13, p. 9998, Jun. 2023, doi: 10.3390/su15139998.
- [11] M. Francisco and B. O. Linnér, “AI and the governance of sustainable development. An idea analysis of the European Union, the United Nations, and the World Economic Forum,” *Environ. Sci. Policy*, vol. 150, no. April, 2023, doi: 10.1016/j.envsci.2023.103590.
- [12] S. Zhang, W. Xie, S. Sun, F. Wu, and Y. Xue, “Nexus of green energy innovation, governance quality, and CO2 emissions in natural resource sector: The role of sustainable human development,” *Resour. Policy*, vol. 88, no. November 2023, p. 104493, Jan. 2024, doi: 10.1016/j.resourpol.2023.104493.
- [13] S. Oberthür and I. von Homeyer, “From emissions trading to the European Green Deal: the evolution of the climate policy mix and climate policy integration in the EU,” *J. Eur. Public Policy*, vol. 30, no. 3, pp. 445–468, Mar. 2023, doi: 10.1080/13501763.2022.2120528.
- [14] S. Štrbac *et al.*, “Green Infrastructure Designed through Nature-Based Solutions for Sustainable Urban Development,” *Int. J. Environ. Res. Public Health*, vol. 20, no. 2, p. 1102, Jan. 2023, doi: 10.3390/ijerph20021102.
- [15] C. Haiyan Tong *et al.*, “The future of public administration research: An editor’s perspective,” *Public Adm.*, vol. 100, no. 1, pp. 59–71, 2019, doi: 10.1111/padm.12829.
- [16] M. Beisheim, A. Ellersiek, L. Goltermann, and P. Kiamba, “Meta-Governance of Partnerships for Sustainable Development: Actors’ Perspectives from Kenya,” *Public Adm. Dev.*, vol. 38, no. 3, pp. 105–119, 2018, doi: 10.1002/pad.1810.
- [17] S. Park and J. Liang, “Merit, Diversity, and Performance: Does Diversity Management Moderate the Effect of Merit Principles on Governmental Performance?,” *Public Pers. Manage.*, vol. 49, no. 1, pp. 83–110, 2020, doi: 10.1177/0091026019848459.
- [18] T. Ahmed, A. Yousaf, R. C. Clavijo, and K. Sanders, “Entrepreneurial Pathways to Sustainability: A Theoretical Paper on Green Human Resource Management, Green Supply Chain Management, and Entrepreneurial Orientation,” *Sustainability*, vol. 16, no. 15, p. 6357, Jul. 2024, doi: 10.3390/su16156357.
- [19] Y. Yuan, S. Ren, G. Tang, H. Ji, F. L. Cooke, and Z. Wang, “How green human resource management affects employee voluntary workplace green behaviour: An integrated model,” *Hum. Resour. Manag. J.*, vol. 34, no. 1, pp. 91–121, Jan. 2024, doi: 10.1111/1748-8583.12510.
- [20] U. Awan, P. Braathen, and L. Hannola, “When and how the implementation of green human resource management and data-driven culture to improve the firm sustainable environmental development?,” *Sustain. Dev.*, vol. 31, no. 4, pp. 2726–2740, Aug. 2023, doi: 10.1002/sd.2543.
- [21] C. Tanova and S. W. Bayighomog, “Green human resource management in service industries: the construct, antecedents, consequences, and outlook,” *Serv. Ind. J.*, vol. 42, no. 5–6, pp. 412–452, Apr. 2022, doi: 10.1080/02642069.2022.2045279.
- [22] R. Chand, S. Nijjer, A. Jandwani, and G. S. Narula, “A novel funnel and ontological mechanism for sustainable Green Human Resource Management (GHRM),” *Int. J. Inf. Technol.*, vol. 16, no. 1, pp. 369–374, Jan. 2024, doi: 10.1007/s41870-023-01622-y.
- [23] N. Shah and B. A. Soomro, “Effects of green human resource management practices on green innovation and behavior,” *Manag. Decis.*, vol. 61, no. 1, pp. 290–312, Jan. 2023, doi: 10.1108/MD-07-2021-0869.
- [24] J. Tej, M. Vagaš, V. Ali Taha, V. Škerháková, and M. Harničárová, “Examining HRM Practices

- in Relation to the Retention and Commitment of Talented Employees,” *Sustainability*, vol. 13, no. 24, p. 13923, Dec. 2021, doi: 10.3390/su132413923.
- [25] B. C. Nayak, G. K. Nayak, and D. Jena, “Social recognition and employee engagement: The effect of social media in organizations,” *Int. J. Eng. Bus. Manag.*, vol. 12, 2020, doi: 10.1177/1847979020975109.
- [26] 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,” *Environ. Dev. Sustain.*, vol. 26, no. 6, pp. 15733–15776, May 2023, doi: 10.1007/s10668-023-03272-3.
- [27] N. Akthar, “Top Management Support: Underlying Mechanism between Green Human Resource Management Practices and Environmental Performance,” *J. Digit. Realis. Mastery*, vol. 1, no. 02, pp. 48–62, Jul. 2022, doi: 10.56982/journalo.v1i02.21.
- [28] S. Ogbaidu *et al.*, “Demystifying the roles of organisational smart technology, artificial intelligence, robotics and algorithms capability: A strategy for green human resource management and environmental sustainability,” *Bus. Strateg. Environ.*, vol. 33, no. 2, pp. 369–388, 2024, doi: 10.1002/bse.3495.
- [29] U. Veerasamy, M. S. Joseph, and S. Parayitam, “Green human resource management practices and employee green behavior,” *J. Environ. Plan. Manag.*, vol. 67, no. 12, pp. 2810–2836, Oct. 2024, doi: 10.1080/09640568.2023.2205005.
- [30] D. Groutsis, J. O’Leary, and G. Russell, “Capitalizing on the cultural and linguistic diversity of mobile talent: lessons from an Australian study,” *International Journal of Human Resource Management*, vol. 29, no. 15, pp. 2231–2252, 2018.
- [31] S. Datta, P. Budhwar, U. A. Agarwal, and S. Bhargava, “Impact of HRM practices on innovative behaviour: mediating role of talent development climate in Indian firms,” *International Journal of Human Resource Management*. 2021.
- [32] I. B. K. Surya, S. Kot, I. P. Astawa, I. G. Rihayana, and I. M. R. M. Arsha, “Unlocking Sustainability through Innovation: A Green HR Approach for Hospitality Industry,” *Virtual Econ.*, vol. 7, no. 2, pp. 50–62, Jun. 2024, doi: 10.34021/ve.2024.07.02(3).
- [33] J. Taylor, G. A. Brewer, and G. Ripoll, “Towards a measure of institutional public service motivation: theoretical underpinnings and propositions for future research,” *Asia Pacific J. Public Adm.*, vol. 44, no. 3, pp. 195–213, 2022, doi: 10.1080/23276665.2022.2085125.
- [34] N. D’Annunzio-Green and A. Ramdhony, “It’s Not What You Do; It’s The Way That You Do It: An Exploratory Study of Talent Management as an Inherently Motivational Process in The Hospitality Sector,” *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 10, pp. 3992–4020, 2019, doi: 10.1108/IJCHM-11-2018-0905.
- [35] A. Alferaih, S. Sarwar, and A. Eid, “Talent turnover and retention research: The case of tourism sector organisations in Saudi Arabia,” *Evidence-based HRM*, vol. 6, no. 2, pp. 166–186, 2018, doi: 10.1108/EBHRM-06-2017-0035.
- [36] M. I. F. Dawwas, “The Relationship between Talent Management Practices, Organizational Justice, and Employee Engagement,” *Spec. Ugdy.*, vol. 1, no. 43, pp. 2105–2134, 2022.
- [37] S. Mozammel, “A quantitative study on HR and talent management in the service industry: A case of Bahrain,” *Int. J. Innov. Creat. Chang.*, vol. 12, no. 6, pp. 519–536, 2020.
- [38] A. A. Mohammed, R. Gururajan, and A. Hafeez-Baig, “Primarily investigating into the relationship between talent management & knowledge management in business environment,” in *16th IEEE/WIC/ACM International Conference on Web Intelligence, WI 2017*, 2017, pp. 1131–1137. doi: 10.1145/3106426.3109444.
- [39] E. Marinakou and C. Giousmpasoglou, “Talent management and retention strategies in luxury hotels: evidence from four countries,” *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 10, pp. 3855–3878, 2019, doi: 10.1108/IJCHM-10-2018-0862.
- [40] F. R. León and J. L. García-Saavedra, “Testing three assumptions of talent management about the motivation to quit in Lima, Peru,” *Int. J. Hum. Resour. Manag.*, vol. 32, no. 22, pp. 4772–4791, 2021, doi: 10.1080/09585192.2019.1704823.
- [41] J.-L. Cerdin, Y. Liao, and K. Sharma, “The role of temporal focus, dispositional employability, and training on the perceived internal career prospects of talents,” *Int. J. Hum. Resour. Manag.*,

- vol. 31, no. 9, pp. 1106–1133, 2020, doi: 10.1080/09585192.2019.1711441.
- [42] W. Ullah, S. M. Abbas, L. Wei, and A. Nadeem, “Green Human Resource Management: A Decadal Examination of Eco-Friendly HR Practices,” *Pakistan Bus. Rev.*, vol. 25, no. 4, pp. 415–449, Jul. 2024, doi: 10.22555/pbr.v25i4.1048.
- [43] L. A. Jimoh and D. M. H. Kee, “Talent Management: The Way Out of Poor Task Performance,” *Ind. Commer. Train.*, 2022, doi: 10.1108/ICT-03-2022-0016.