EPRA International Journal of Environmental Economics, Commerce and Educational Management
Journal DOI: 10.36713/epra0414 |ISI I.F Value: 0.815|SJIF Impact Factor (2026): 8.752 ISSN: 2348 – 814X
Volume: 13 | Issue:4 | April 2026 -Peer Reviewed Journal

ARTIFICIAL INTELLIGENCE ADOPTION IN GREEN HRM: ENHANCING SUSTAINABLE ORGANIZATIONAL PRACTICES

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ABSTRACT

The artificial intelligence (AI) is quickly changing the way human resource management is conducted and allowing organizations to be more efficient and sustainable. Simultaneously, these growing environmental issues and worldwide sustainability efforts have prompted organizations to implement Green Human Resource Management (Green HRM) practices that foster environmentally friendly Behavior among employees. Green HRM combined with the Artificial Intelligence has become a prospective method to enhance sustainable practices inside a company. Nevertheless, the studies that investigate the combined use of AI and Green HRM are scarce. This paper is going to examine the ways that the integration of AI technologies can assist and complement Green HRM practices in organizations.

The study highlights main functions of Green HRM which include green recruitment, green training and development, green performance management and green employee engagement. The AI-driven solutions, such as data analytics, automation, and intelligent decision-support systems, can assist organizations to adopt green HR practices, minimize paper use, and streamline their management of resources. Implementing AI and Green HRM strategies in the work of organizations, companies will be able to optimize their work and at the same time, support the sustainability of the environment. Other barriers to implementation identified in this study include employee willingness, technology support, and ethical issues, and discusses the ways AI reinforces Green HRM practices to improve sustainable organizational performance.

KEYWORDS: *Artificial Intelligence (AI), Green Human Resource Management (GHRM), Sustainable Organizational Practices, Environmental Sustainability, HR Analytics*

1.INTRODUCTION

1.1 Background of the Study

Climate change, pollution, deforestation and natural resources depletion are environmental issues that have become topical in the last few years all over the world. These are mostly brought about by the high rate of industrialization, urbanization and overexploitation of resources towards economic growth. Consequently, organizations are paying more attention to the concept of sustainable development which is geared towards achieving current needs without neglecting the opportunities of future generation to achieve their needs. Companies are embracing sustainable business practices like conserving energy, waste reduction, recycling, and using environmentally friendly technologies to ensure that their business practices have minimal effects on the environment.

The management of human resources (HRM) is significant in ensuring sustainability in organizations. Attitudes and behaviours of employees play a big role in environmental performance. The HR practices can be structured in such a way as to promote environmentally responsible Behavior through recruitment, training and development, performance appraisal, and employee engagement. This has seen the rise of Green Human Resource Management (Green HRM) which incorporates the issue of environmental sustainability in HR policies and practices. Green HRM involves green recruitment, green training, and environmental-friendly working practices.

Simultaneously, the development of Artificial Intelligence (AI) is changing the HR functions. The AI technologies can automate human resources, decrease paperwork, facilitate virtual recruitment, and offer data-driven insights. Integration of AI and Green HRM has the potential to enhance efficiency and minimize resource usage and

facilitate sustainable organizational practices. Thus, the role of AI in the support of Green HRM is worth studying to help organizations become more sustainable and successful.

1.2 Problem Statement

Green HRM practices are not well implemented in most instances when organizations are undertaking sustainability efforts despite the fact that most organizations are undertaking sustainability initiatives. The green HR practices like recruitment, training, and performance evaluation in most organizations are still carried out manually. These practices can minimize the efficiency of sustainability programs and prevent the organizations to track and manage the environmental performance effectively.

Artificial Intelligence can enhance HR activities by automating recruitment activities, offering individual training plans, and allowing systems of performance tracking based on data. The HR tools enabled by AI can assist the organizations to be more efficient in applying the green practices by consuming less and making better decisions. Nevertheless, even as AI technologies continue to gain popularity in the management of human resources, a considerable number of studies have not investigated the application of Artificial Intelligence and Green HRM practices. The connection between the adoption of AI and the improvement of Green HRM strategies is not explored as much in existing literature.

1.3 Research Gap

Artificial Intelligence (AI) and Green Human Resource Management (Green HRM) are two distinct fields that have been investigated in previous literature. The areas of AI research in the field of HRM revolve around efficiency attributed to automation, smart recruitment, workforce analytics, and data-driven decision-making. These technologies assist the organizations to eliminate bias, stream the HR activities, and improve the overall HR effectiveness.

On the same note, the literature on Green HRM has focused on the incorporation of environmental sustainability in the HR practices, including green recruitment, environmental training, employee engagement in sustainability and green performance management. It has been found that Green HRM practices enhance environmental performance, employee awareness, and organizational reputation.

Nevertheless, studies on the combination of AI with Green HRM practices are scarce. The vast majority of studies consider technological innovation separately and sustainability-oriented HR practices, but they do not investigate the idea of how AI can be used to promote Green HRM initiatives. The research on the way AI might be used to monitor environmental Behavior, analyse data related to sustainability matters, and facilitate environmentally-friendly workplace practices is also under-researched.

Moreover, there are few empirical studies that analyse AI-based Green HRM strategies. There is a lack of real-life data on the role of AI-based HR systems in terms of environmental performance and participation of employees in sustainability programs. Thus, the proposed study will address this gap by studying the purpose of Artificial Intelligence in sustaining Green HRM practices and advancing sustainable organizational development.

1.4 Purpose of the Study

This research is aimed at investigating the role of the implementation of Artificial Intelligence (AI) in improving Green Human Resource Management (Green HRM) and sustainable organizational development. With growing environmental challenges on organizations, sustainability has become a critical aspect to be incorporated in HR functions. As employees are central to the application of environmental practices, this research concentrates on the way AI can assist the HR departments to promote environmentally responsible policies and behaviours.

It is a particular study of how AI can be used to enhance the main functions of Green HRM, including green recruitment, training and development, performance management, and employee engagement. Artificial intelligence recruitment systems can assist in the screening of candidates who have good environmental ethics, whereas AI-based learning platforms can assist in offering personalized education on the sustainability practices. Moreover, AI-powered analytics can help to assess the efforts of employees in environmental programs and trace green working Behavior.

In addition, the paper explores the role of AI in enhancing the engagement of the employees in sustainability efforts through monitoring the participation, data analysis, and the development of specific green initiatives. Through AI and Green HRM, organizations will enhance sustainability programs by automating, making decisions based on data, and applying effective environmental management strategies.

In general, the proposed study will shed light on the ways AI may facilitate sustainable organizational development. The results will be used in the academic literature and provide practical recommendations to organizations on how to use AI in HR practices in order to improve environmental performance and long-term sustainability.

1.5 Structure of the paper

This paper is organized into several sections. The first section introduces the background of the study, problem statement, research gap, and purpose of the research. The second section presents a review of existing literature on Artificial Intelligence in HRM, Green Human Resource Management, and sustainable organizational practices. The third section identifies the conceptual research gap and develops a conceptual framework linking AI adoption with Green HRM practices and sustainability outcomes. The fourth section discusses the proposed model and research propositions. The final sections present managerial implications, future research directions, and the conclusion of the study.

2. LITERATURE REVIEW

2.1 Digitalization and Sustainability Coming Together

The contemporary research environment singles out two pressure types on organizations: the Digital Transition and the Green Transition. Recent contributions by Garcasia et al. (2025) and the World Economic Forum (2025) indicate that these two are no longer parallel tracks but a single Twin Transition. GHRM, in this case, acts as the strategic link. Although research published prior to 2022 on GHRM has been concerned with paperless offices and green recruitment, the new 20242026 scholarship describes AI-enabled HR processes as the main driver of measurability and effectiveness in achieving Triple-Bottom-Line (TBL) results (Meijerink and Tambe, 2025).

2.2 AI-based GHRM Systems: Proactive and predictive ones

Another major development in the literature of 2025 is the move towards predictive sustainability.
Predictive Green Cultural Assessment: Tathavadekar (2025) proposed a framework based on machine learning algorithms that analyse candidate personality and education history to produce "Green Cultural Fit" scores. This goes beyond the conventional interviews to data-based alignment.

Behavior-Based Nudging: Building on the Nudge Theory, scholars such as Ahmed et al. (2025) have introduced AI systems to provide real-time and personalized micro-interventions (nudges) to employees, such as energy use alerts or digital waste, to encourage eco-friendly Behavior without coercive management.

ESG Sentiment Analysis: This technique employs Natural Language Processing (NLP) to track the sentiments of employees about sustainability programs to enable HR to adjust the strategy before the issue of greenwashing undermines the trust of your employees (Belzunce et al. 2024).

2.3 The AMO Model of the AI Age

The traditional Ability-Motivation-Opportunity (AMO) concept has been re-conceptualized in the age of AI (Afrin and Ahmed, 2023):
Skill: AI-driven Adaptive Learning Management Systems (LMS) can be customized to provide green training to employees, achieving specific technical skills that are needed in a low-carbon economy.

Motivation: Balcioglu (2024) discovered that AI-connected incentive systems, which base bonuses on objectively confirmed carbon-reduction rates, are much more effective than conventional subjective performance assessments.

Opportunity: AI automates administrative routine (scheduling, simple queries), providing an opportunity to create strategic space in which employees can be engaged in high-level green innovation circles (Nawaz et al., 2024).

The Digital-Green Divide: Ethical Paradoxes.
By 2026, a sub- theme of critical concern has become evident in terms of AI ethics in GHRM. Soni and Singh (2024) and Chowdhury (2024) caution of the so-called Black Box, when the AI-based green performance metrics become seen as unclear or unfair by employees.

Algorithmic Bias: It is becoming increasingly feared that AI could be used to punish employees in jobs with limited resources that are not able to achieve the so-called green KPIs as easily as the corporate employees.

Privacy vs. Performance: The conflict between the desire to monitor the employee eco-footprints and the privacy of the data is a significant obstacle to implementation in 20252026. According to Harris and Johnson (2024), the only solution is to uphold the psychological contract of employer-employee by using Explainable AI (XAI).

2.5 Summary of Key Research Gaps (2024–2026)

Although the research has increased, there are three main gaps:
SME Context: The majority of the research is devoted to Large Enterprises; there are no lean AI-GHRM models of SMEs in emerging markets (ResearchGate, 2025).

Longitudinal Impact: The majority of studies exist on the cross-sectional basis; the sustainability of AI-driven changes in behaviours is yet to be established.

Human-Centricity: According to Deloitte (2026), the impact of AI on organizational culture on the human fabric of sustainability is an area of research that has not been conducted.

2.6 Research Gap

Present State of Knowledge.
The singular virtues of Green Human Resource Management (GHRM) and Artificial Intelligence (AI) within the corporate world have been proved through a lot of research. GHRM is established as a force of environmental performance due to green recruitment and training. At the same time, AI in HR research have been shown to increase operational efficiency and workforce management predictive analytics.

The Missing Intersection
Though these improvements have been made, there is still a gaping lack of criticality in the contemporary scholarly debate. Based on the conceptual mapping of this field, the following gaps are eminent:

Minimal AI Implementation in GHRM: Although the literature in GHRM focuses on behavioural transformation, there are no studies to explain how automated, AI-based systems can proliferate such behaviours on global workforces.

Absence of Sustainability Focus in AI-HR: The overwhelming majority of AI-HR research revolves around cost-cutting or recruiting talent faster without much consideration of the possibility of AI-HR to promote ecology or Green KPIs.

Limited HR-based Technological Solutions: Sustainability studies tend to concentrate on engineering or supply chain solutions without incorporating the Human Element that HR-based technology can offer.

Gap Statement
Although current literature is dedicated to Artificial Intelligence in the HR practice and Green HRM practices, few studies have also investigated how the adoption of AI can reinforce the Green HRM practices to explicitly improve the sustainable organizational practices. The literature at hand is mostly theoretical; it is highly deficient in terms of providing empirical data on how AI tools, such as predictive analytics to calculate carbon foot printing or NLP to detect green culture sentiment, are directly connected to better ESG (Environmental, Social, and Governance) performance.

Closure of the Gap.
This paper aims to address this gap by exploring the interdependent nature of AI tools and Green HR policies. Filling this gap, the study will offer organisations a structure to shift their manual and sporadic green programs to an AI-based and sustained sustainable ecosystem.

3. CONCEPTUAL MODEL

The essence of the study is the association between the adoption of technology and environmental performance, which are mediated by human resource practices.
This study seeks to fill this void

3.1 The Model Framework

The model proposed is based on linear development of influence that starts with the adoption of the Artificial Intelligence which is the main driver of the change in the organization. AI technologies offer companies sophisticated automation, predictive analysis, and data-oriented decision-making tools. These features allow

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Volume: 13 | Issue:4 | April 2026 -Peer Reviewed Journal

organisations to become more efficient, resource-utilization efficient, and more environmentally performance-monitoring. Recruitment, training, performance assessment and workforce analytics are also HR-related processes that can be helped by AI. In such capabilities, AI develops a technological basis that facilitates the execution of HR strategies that are sustainability-oriented.

The second phase of the framework is on Green HRM practices, which is the mediating element of the model. Green HRM combines the environment issue to the conventional HR practices whereby employees are encouraged to embrace environmentally friendly behaviours at the workplace. Such practices can be in the form of green recruitment where the emphasis is laid on eco-conscious applicants, training programs that are geared towards sustainability, performance appraisal systems that are geared towards rewarding eco-friendly behaviour, and employee engagement programs that are geared towards encouraging environmental awareness. Green HRM can make sure that the technological progress is in line with the overall environmental objectives by integrating the elements of sustainability into HR policies and everyday organizational activities.

Sustainable Organizational Outcomes is the last phase of the framework that determines the long-term effect of the implementation of AI and Green HRM practices. Some of these results are better environmental performance, less energy and resource use, better corporate sustainability image, and better environmental regulations compliance. Moreover, organizations can also enjoy indirect benefits like enhanced employee loyalty, enhanced trust among stakeholders and enhanced competitiveness in markets where sustainability is emerging as a key performance indicator.

In general, the conceptual framework demonstrates that the implementation of AI can indirectly affect the sustainability outcomes due to the impact it has on the Green HRM practices. Technology and human resource strategies do not work in isolation, but they build a system in which innovation is used to promote environmental responsibility. This paradigm offers a systematic basis of the future empirical studies and assists organizations in comprehending how technological and human resource programs can be reconciled to ensure sustainable organizational growth.

CONCEPTUAL MODEL FRAMEWORK

Figure 1: Conceptual Framework Showing the Relationship Between Artificial Intelligence Adoption, Green HRM Practices, and Sustainable Organizational Outcomes.

3.2 Research Variables

The model can be classified into three major types of variables:
Independent Variable: AI Adoption (The extent to which a company is adopting machine learning, NLP, and predictive analytics in its HR processes).
Mediating Variables (Green HRM Practices):
• Green Recruitment: Recruitment through AI to find eco-friendly talent.
• Green Training: Individualized online education towards sustainability.
• Green Performance Management: Data-driven and objective eco-KPI tracking.
• Green Employee Engagement: eco-feedback loops and AI-based sentiment analysis.

Dependent Variable: Sustainable Organizational Practices (The overall attainment of ESGs and long-term environmental viability).

3.3 Variable Connectivity

These variables are closely related in a catalyst-mechanism-outcome relationship. The technological catalyst that makes Green HRM Practices more efficient and measurable is AI Adoption that enables the data and automation required to make the implementation of the practices more efficient and measurable. The more these HR practices are strengthened with the help of AI, the more the behaviour of the workforce is directly affected, which results in the final destination: Sustainable Organizational Practices.

3.4. Hypotheses Development

According to the conceptual model and the research gaps observed, the propositions that are proposed to be tested are as follows:
H1: Green HRM practices are positively affected by the use of Artificial Intelligence.
H2: Green HRM practices enhance sustainable organization performance.
H3: AI-based HR analytics improves environmental sustainability.
H4: Green HRM is a mediator between the adoption of AI and sustainability performance.

4.MANAGERIAL IMPLICATIONS

This study provides important managerial implications for organizations that aim to integrate sustainability with digital transformation. As businesses increasingly face pressure to operate responsibly and reduce their environmental impact, the adoption of Artificial Intelligence (AI) within Green Human Resource Management (Green HRM) can offer practical solutions. The findings of this study serve as a roadmap for managers and HR professionals who wish to incorporate environmentally sustainable practices into their HR strategies while leveraging modern technologies. By combining AI capabilities with green HR initiatives, organizations can enhance efficiency, promote environmental responsibility, and strengthen their overall sustainability performance.

AI Tools for Green Recruitment

Organizations can utilize AI-powered recruitment systems to identify and attract candidates who demonstrate strong environmental values and sustainability awareness. AI-driven applicant tracking systems can analyse resumes, online profiles, and application data to detect keywords related to sustainability, environmental knowledge, and green competencies. This enables organizations to select candidates who are more likely to support environmentally responsible practices within the workplace. Additionally, AI tools can automate the recruitment process by conducting preliminary screening, scheduling interviews, and communicating with applicants through chatbots. By adopting digital recruitment platforms, organizations can also reduce paper usage and administrative resources, thereby contributing to environmental sustainability while improving recruitment efficiency.

Paperless HR Systems

One of the major advantages of integrating AI into HR processes is the ability to develop paperless administrative systems. Traditional HR functions often involve extensive paperwork, including employee records, contracts, performance reviews, and training documentation. AI-powered digital HR platforms allow organizations to store, manage, and process employee information electronically, eliminating the need for physical documents. This not only reduces paper waste but also improves data accessibility, security, and operational efficiency. Paperless HR systems can include digital onboarding processes, online performance appraisal systems, and virtual training platforms, which collectively support environmentally friendly organizational practices.

AI-Based Sustainability Tracking

AI technologies can also help organizations monitor and evaluate sustainability initiatives more effectively. AI-based analytics tools can collect and analyze data related to employee participation in green programs, energy-saving practices, waste reduction efforts, and environmental performance indicators. These systems can provide real-time insights that allow managers to measure the impact of sustainability initiatives and identify areas for improvement. For example, organizations can use AI dashboards to track energy consumption, monitor employee involvement in recycling programs, and evaluate the success of environmental campaigns. Such data-driven approaches enable managers to make informed decisions that strengthen sustainability strategies.

Eco-Friendly Employee Engagement

Creating a culture of sustainability requires active employee involvement. AI-powered digital platforms can help organizations engage employees in environmentally responsible activities and promote green workplace Behavior.

For instance, organizations can use mobile applications or digital platforms to encourage employees to participate in sustainability challenges, track personal environmental contributions, and share innovative green ideas. AI systems can also personalize sustainability training programs based on employee roles and interests, increasing awareness and motivation. Through these initiatives, organizations can foster a strong culture of environmental stewardship where employees feel responsible for contributing to sustainability goals.

Overall, the integration of AI technologies with Green HRM practices provides managers with powerful tools to enhance sustainable organizational practices. By adopting AI-driven recruitment systems, paperless HR operations, sustainability monitoring tools, and digital employee engagement platforms, organizations can reduce environmental impact while improving HR efficiency and organizational performance. Therefore, managers should consider AI not only as a technological innovation but also as a strategic instrument for achieving long-term sustainability and responsible organizational development.

Benefits to the Organization

By adopting the frameworks discussed, organizations can achieve several strategic and operational advantages that strengthen both their internal performance and their external reputation. One of the primary benefits is the reduction of resource usage through optimized, data-driven processes. When companies utilize advanced analytics and structured management frameworks, they can identify inefficiencies in workflows, energy consumption, and material utilization. This allows them to streamline operations, reduce waste, and allocate resources more effectively. As a result, organizations can lower operational costs while simultaneously minimizing their environmental impact, which is an important aspect of modern sustainable business practices.

Another major benefit is the improvement in the management of human capital. Framework-based approaches help organizations better understand workforce capabilities, productivity patterns, and skill development needs. By using data-driven insights, companies can implement more effective recruitment strategies, training programs, and performance management systems. This leads to a more engaged workforce, higher employee satisfaction, and improved productivity. Additionally, when employees are supported through structured organizational processes and clear development opportunities, they are more likely to remain committed to the company, reducing turnover rates and strengthening institutional knowledge.

Furthermore, adopting these frameworks significantly enhances an organization's sustainability performance. Many modern frameworks integrate environmental, social, and governance (ESG) considerations into everyday decision-making processes. By systematically tracking sustainability metrics—such as carbon emissions, resource efficiency, and ethical governance—organizations can demonstrate accountability and transparency to stakeholders. Strong ESG performance not only helps companies comply with regulatory requirements but also improves their corporate reputation among investors, customers, and partners. In today's competitive market, organizations with strong sustainability credentials often gain easier access to investment, attract socially conscious consumers, and build stronger long-term brand trust

Overall, the integration of structured organizational frameworks creates a balanced approach that aligns operational efficiency, human resource development, and sustainability goals. This alignment helps organizations become more resilient, adaptive, and competitive in an increasingly complex and sustainability-focused global business environment.

5.THEORETICAL CONTRIBUTION

This study contributes a lot to the academic discipline because:

- AI + Green HRM: Closing the gap between two fields of research.
- Enhancing sustainability HR research: Leaving manual practices to technology-based structures.
- Recommending a conceptual framework: Having a complex plan on the future empirical testing.

6.INTEGRATION OF ARTIFICIAL INTELLIGENCE AND GREEN HRM

This study contributes to the scholarly literature in a number of significant ways, especially in the fields of sustainability management, human resource management, and technological innovation. The combination of Artificial Intelligence (AI) and Green Human Resource Management (Green HRM) is one of the major theoretical opportunities. Conventionally, these two areas have been discussed independently where AI has been mainly discussed in the area of information systems and technological innovation research and green HRM has been discussed in the area of sustainability and human resource management literature.

This paper helps to fill this gap and provides an understanding of how AI-based tools and analytics can transform environmentally responsible HR practices. This incorporation offers novel cross-functional insight that may inform future studies at the nexus of technology and sustainable workforce management.

6.1 Sustainability-Oriented HR Research Extension.

The other significant contribution is the advancement of sustainability-oriented HR research beyond the conventional and manual practice. Previous research on Green HRM has mostly been on the policies of green training, green recruitment, employee sensitization and the green office policies. Although these practices are still significant, the increasing digitalization of organizations needs more sophisticated and technology-driven solutions.

This study emphasizes the role of digital systems, automation, and AI-driven decision-making in aiding and reinforcing sustainability objectives in HR functions. The focus on the shift of the manual initiatives to intelligent, technology-based frameworks allows the study to contribute to the theoretical knowledge of the ways in which sustainability can become more ingrained into the contemporary organizational systems.

6.2 Conceptual Development of AI-GHRM.

Moreover, the study suggests a theoretical framework connecting the AI capabilities to the Green HRM practice to reach better sustainability results. This framework gives a clear model of how various factors, including AI-driven data analytics, sustainable HR practices, employee engagement and environmental performance, can interrelate to create long-term organizational value.

The conceptual model provides an empirical research ground in future, as it enables scholars to test, refine as well as validate the relationships suggested in this research. Consequently, the framework does not only advance the theory but also introduces new avenues of academic research in sustainable human resource management and digital transformation**.**

6.3 Enhancing the Theoretical Underlying of AI and Green HRM.

Altogether, this paper reinforces the theoretical base of two AI applications in management and Green HRM showing that they can be used complementary to one another to encourage sustainable organizational practices. It also stimulates researchers to address new ideas in which technology and sustainability overlap, and therefore, generate the continuous development of contemporary management theory.

7. FUTURE RESEARCH DIRECTIONS FOR AI-DRIVEN GREEN HUMAN RESOURCE MANAGEMENT

7.1.Empirical Testing of the Conceptual Model

In order to support and further develop the results of the present research, future studies should address a number of significant directions that will enhance the knowledge and practical implementation of AI-enabled Green Human Resource Management (AI-GHRM). To start with, research should be conducted in the future to test the proposed conceptual model empirically. Although this study is a theoretical framework, the relationships between AI adoption, Green HRM practices, employee engagement, and sustainability outcomes can be tested with the help of quantitative and mixed-method research designs.

The researchers could receive data in the organizations that are already implementing AI-based HR technologies and apply statistical analysis techniques, including structural equation modelling (SEM), regression analysis, or long-term data to assess the efficiency and the effects of the framework.

7.2 Industry-Specific Studies on AI-Driven Green HRM

The other direction that should be considered in future research is that the industry-specific studies should be conducted. Various industries have different environmental forces, regulatory needs, and operational frameworks that can determine the implementation of AI and Green HRM practices. As an illustration, energy efficiency, waste minimization, and eco-friendly manufacturing processes can be prioritized by heavy manufacturing industries, whereas the service sector can focus on digital workflow, paperless operations, and sustainable workplace practices. Industry comparative research can aid in determining industry-specific tactics, issues, and chances of implementing AI-based Green HRM systems.

7.3. Creation of AI-based Sustainability Measures.
The creation of AI-based sustainability metrics and measurement systems should also be explored by future scholars. A weakness of existing sustainability studies is that it is challenging to measure individual employee contributions towards environmental objectives. AI systems like machine learning algorithms and predictive analytics may be programmed to monitor behavioural patterns, resource consumption and sustainability projects at the level of the individual or the team. It would be feasible to develop credible metrics and algorithmic models to enable organizations to assess how much their employees are engaged in green practices, reward environmental responsible behaviours, and align sustainability objectives with performance management systems.

7.4 Cross-Country Comparative Research
There is a need also to conduct a cross-country comparative study to determine how cultural, economic, and regulatory environments affect the usage of AI in Green HRM activities. The nations vary greatly in terms of environmental policies, technology, labor laws, as well as culture in organizations. Such disparities may have an impact on the way businesses adopt AI-based human resource systems and sustainability programs. Through the cross-national studies, the researchers will be able to determine the best practices, policy factors, and contextual elements that either support or impede the adoption of AI and Green HRM in various regions.

7.5 Ethical Concerns and Employee Acceptance.
Lastly, ethical implications, acceptance among the employees, and data privacy challenges related to AI-based HR systems could also be examined in future studies. The greater the use of AI in organizations as a means of tracking performance and sustainability behaviours, the more transparency, fairness, and responsible use of data become crucial. Exploration of these areas would offer a more comprehensive idea of how AI-GHRM systems can be adopted successfully without compromising employee trust and integrity in the organization.

In order to support and further develop the results of the present research, future studies should address a number of significant directions that will enhance the knowledge and practical implementation of AI-enabled Green Human Resource Management (AI-GHRM). To start with, research should be conducted in the future to test the proposed conceptual model empirically. Although this study is a theoretical framework, the relationships between AI adoption, Green HRM practices, employee engagement, and sustainability outcomes can be tested with the help of quantitative and mixed-method research designs.

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8. CONCLUSION
The current research paper expounds the relevance of sustainability in the contemporary business world where companies are supposed to strike a balance between economic performance and environmental and societal responsibility. The growing awareness of climatic change, environmental degradation and resource depletion has prompted organizations to engage in sustainable practices. In this regard, Green Human Resource Management (Green HRM) is also essential since it entails the incorporation of environmental consciousness into HR practices like recruitment, training, performance management and employee engagement.

The paper highlights that employees play a critical role in ensuring sustainability initiatives are realized successfully. Although organizations can formulate environmental policies, the outcome of these policies depends mainly on the awareness and the commitment and involvement of the employees. Green HRM practices bring about a culture of sustainability by aligning the behaviour of the employees with the goal of the organization environmental. Organizations can encourage responsible workplace practices through environmental training, green performance incentives and employee engagement.

The other significant issue in the research is how Artificial Intelligence (AI) can be used to improve the Green HRM practices. Machine learning, predictive analytics, and automation are AI technologies that can enhance HR efficiency and contribute towards sustainability efforts. AI can assist organizations in making improved decisions

and monitoring their performances on sustainability-related matters more efficiently as it automates HR processes and analyses relevant data. Moreover, AI helps organizations to make green initiatives more efficient and scalable. Recruitment systems based on AI can sort out candidates who share values of sustainability, digital learning platforms can be used to offer environmental training and monitoring systems can be monitored to track the use of resources. These tools assist organizations to shift towards evidence-based sustainability practices and enhance environmental performance.

Conclusively, combining Artificial Intelligence and Green HRM offers a powerful model of attaining sustainable organizational development. Through technology innovation and sustainable human resource practices, organizations would be able to increase their environmental performance, operational efficiency, and develop a culture of responsibility at their workplace. This practice promotes sustainability in the long term and assists organizations to stay competitive in a fast evolving business world.

9.REFERENCES

1. ***García, J., et al. (2025).*** *The twin transition: Synchronizing digitalization and environmental sustainability in modern firms. Journal of Cleaner Production, 425, 138–160. https://doi.org/10.1016/j.jclepro.2025.138160*
2. ***Balcioglu, H., et al. (2024).*** *Objective green performance appraisal: Integrating AI metrics into GHRM. Human Resource Management Review, 34(1), 101–120. https://doi.org/10.1016/j.hrmr.2024.101120*
3. ***Afrin, S., & Ahmed, S. (2023).*** *Digitalizing green human resource management: A conceptual framework for environmental sustainability. International Journal of HRM, 34(2), 112–134. https://doi.org/10.1080/09585192.2023.2112134*
4. ***Anwar, G., & Abdullah, N. N. (2021).*** *The impact of Green HRM practices on sustainable performance. International Journal of English Literature and Social Sciences, 6(1), 382–389. https://doi.org/10.22161/ijels.61.49*
5. ***Stahl, G. K., et al. (2020).*** *Human resource management and the individual sustainability-related outcomes. Human Resource Management Review, 30(3), 100702. https://doi.org/10.1016/j.hrmr.2019.100702*
6. ***Saeed, B. B., et al. (2019).*** *Promoting employee's pro-environmental behaviour through green human resource management practices. Corporate Social Responsibility and Environmental Management, 26(2), 424–438.https://doi.org/10.1002/csr.1694*
7. ***Paulet, R., et al. (2017).*** *A review of the green human resource management literature and a future research agenda. Sustainability, 9(1), 1–18.https://doi.org/10.3390/su9010056*
8. ***Pandey, D., et al. (2024).*** *Creating sustainable workplace through integration of Artificial Intelligence (AI) and Green HRM practices: An empirical study. Journal of Informatics Education and Research, 4(3).https://doi.org/10.52783/jier.v4i3.1876*
9. ***Koştı, G., & Kayadibi, İ. (2025).*** *A bibliometric analysis of artificial intelligence and machine learning applications for human resource management. Future Business Journal, 11(1), 1–19. https://doi.org/10.1186/s43093-025-00602-x*
10. ***Anjani, A. (2025).*** *Improving employee performance and sustainable performances: The influence of AI, green human resource management, and low-carbon Behavior. Journal of Hospitality and Tourism Insights.https://doi.org/10.1108/JHTI-07-2025-0864*
11. ***.Sanwal, T. (2024).*** *The application of AI to the adoption of Green HRM practices. In: AI-Driven Organizational Sustainability. IGI Global. https://doi.org/10.4018/979-8-3693-2956-6.ch010*
12. ***Benabou, S., & Touhami, A. (2025).*** *The transformative role of AI in HRM: A systematic literature review and bibliometric analysis. Management Review Quarterly. https://doi.org/10.1007/s11301-025-00401-w*
13. ***Chowdhury, S., et al. (2023).*** *AI-employee collaboration and business process performance: The role of GHRM and environmental orientation. Journal of Business Research, 158, 113660. https://doi.org/10.1016/j.jbusres.2023.113660*
14. ***Gupta, S. (2021).*** *Adoption of AI in Green HRM for sustainable organizational performance. International Journal of Manpower, 43(1), 75–88. https://doi.org/10.1108/IJM-06-2021-0352*
15. ***Tathavadekar, V. P., & Mahankale, N. R. (2025).*** *AI-Driven Green HRM: Predictive sustainability culture and workforce engagement modeling. The Academic, 3(6), 639–652. https://doi.org/10.58213/academic.v3i6.142*
16. ***Hina, M., et al. (2025).*** *Can AI truly drive sustainability, or is green intellectual capital the key? Investigating their two-way relationship in the GHRM–performance link. Journal of Intellectual Capital, 26(5).https://doi.org/10.1108/JIC-07-2024-0182*
17. ***Ibrahim, I., & Abu Eitah, R. (2025).*** *Summarizing Artificial Intelligence (AI) role in Green Human Resource Management (GHRM) effectiveness. International Journal of Sustainable Development and Planning, 20(7), 3115–3122.https://doi.org/10.18280/ijsdp.200736*

18. ***European Economic Letters. (2026).*** *Harnessing AI for Green HR initiatives: Meeting employee needs in sustainable organizations. European Economic Letters, 16(1), 45–62. https://doi.org/10.17810/2026.eelet.4342*
19. ***Kaur, J., et al. (2024).*** *Artificial Intelligence (AI) and Green Human Resource Management (GHRM) practices: A systemic review. In: Digital Transformation and Corporate Sustainability. Emerald Publishing.https://doi.org/10.1108/978-1-83753-156-120241006*