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Research Article

Green Human Resource Management and Organizational Sustainability: A Bibliometric Analysis of Research Trends

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ABSTRACT

Objectives: This study aims to systematically examine the relationship between Green Human Resource Management (GHRM) and organizational sustainability by identifying major research trends, themes, and performance outcomes in the existing literature. **Methodology:** A systematic literature review following the PRISMA 2020 protocol was conducted using the Scopus database for the period 2015-2025. Bibliometric analysis was performed using VOSviewer to map keyword co-occurrence, citation patterns, and co-authorship networks. **Results:** The results reveal that GHRM significantly contributes to organizational sustainability through employee pro-environmental behaviour. Core practices such as green recruitment, training, performance management, and employee involvement are strongly associated with improved environmental performance. Emerging themes include green innovation, green leadership, and artificial intelligence in HR systems. Organizations should integrate GHRM practices strategically to enhance sustainability performance. Future research should adopt longitudinal, cross-cultural, and multi-level approaches to better understand causal mechanisms and cultural influences. **Conclusion:** This study provides a comprehensive bibliometric mapping of GHRM-sustainability research, highlighting thematic evolution, research gaps, and future directions for sustainable organizational development.

Keywords: Bibliometric analysis, Green human resource management, Green innovation, Organizational sustainability, Sustainability performance, VOSviewer.

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INTRODUCTION

Human Resource Management (HRM) involves the effective management of people within an organization to improve employee performance and support the achievement of strategic goals. It includes a wide range of activities, comprising recruitment and selection, training and development, performance appraisal, compensation and benefits, employee relations, and organizational change, while confirming compliance with legal and collective bargaining requirements. In recent years, growing concerns about environmental responsibility have inspired organizations to rethink traditional HR practices, leading to the emergence of Green Human Resource Management (GHRM). GHRM integrates environmental considerations into HR policies and practices, facilitating organizations to associate people management with sustainability objectives. The concepts of sustainability and sustainable development have gained significant consideration in both academic research and managerial practice, specifically in relation to environmental management and organizational performance. Sustainability is progressively viewed as a key factor influencing not only environmental results but also an organization's economic viability and social responsibility. Prior research shows that long-term organizational success is intricately linked to the capability to balance economic objectives with social and environmental commitments. Since HR decisions directly influence employee behaviour and organizational culture, the HR function plays a crucial role in designing and executing sustainability-oriented strategies. Associating HR practices with sustainability principles allows organizations to strengthen their competitive advantage, develop corporate reputation, and attract and retain high-performing talent (Alketbi and Rice, 2020). Empirical evidence across various sectors including manufacturing, tourism, hospitality, finance, and healthcare determines the positive role of GHRM in advancing sustainability results. For example, Gupta (2018) examined organizational performance based on GHRM practices, while Kim *et al.* (2019) found that green HRM influences employees' eco-friendly behaviour and environmental performance in the hotel industry. Similar findings have been conveyed in finance and healthcare contexts, where GHRM practices contribute to enhanced sustainability performance

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while decreasing environmental impact (Dumont *et al*., 2017). Sustainability can be understood as a dynamic organizational state that create long-term value for stakeholders while making positive contributions to society and the natural environment (Dyllick and Muff, 2016; Elkington, 1997). Dyllick and Muff (Ellegaard and Wallin, 2015) emphasize that sustainability promotes innovation, cultural transformation, and balanced social, environmental, and economic outcomes. Although the growing interest in GHRM, much of the existing literature focuses on individual HR practices, with limited attention to organizational sustainability as an integrated outcome. Tackling this gap, the current study systematically reviews and maps the existing literature on GHRM and organizational sustainability using bibliometric analysis, thus contribution a comprehensive overview of research trends and identifying key areas for future investigation (Gupta, 2018; Jabbour and Santos, 2008; Kim *et al*., 2019; Longoni *et al*., 2014; Miah *et al*., 2021).

OBJECTIVES AND SCOPE

This study aims to systematically examine the relationship between Green Human Resource Management (GHRM) and organizational sustainability by identifying key research themes, publication trends, and performance outcomes. Specifically, the study seeks to:

- Identify major research trends in GHRM and sustainability literature.
- Analyze organizational performance measures associated with GHRM.
- Map bibliometric relationships among authors, keywords, and research themes.
- Identify research gaps and future directions for sustainable HRM research.

LITERATURE REVIEW

Green Human Resource Management (GHRM) has concerned encouraging attention in sustainability and strategic HRM study as organizations take to surround environmental responsibility inside their people management systems. Existing studies have explored individual GHRM practices, involving green recruitment, environmental training, performance appraisal, and employee involvement, and have allied these practices to positive sustainability results. But there is still constrained understanding of how these practices function simultaneously as incorporated GHRM systems. Research shows that an organization's environmental reputation plays a crucial role in charming environmentally determined employees, as positive green representations influence job seekers' perceptions and career selections. Environmental training helps employees develop green skills, while energetic involvement in environmental initiatives promotes pro-environmental behaviour and reinforcements organizational sustainability goals. Cooperatively, these practices participate in the development of a green organizational culture. Although, the mechanisms through which unified GHRM systems control environmental performance remain inadequately discovered. Furthermore, the existing research is focused on Western perspectives, limiting its wider applicability. Thus, future studies should adopt longitudinal, systemic, and cross-cultural perspectives to appropriately understand how GHRM systems influence sustainability and organizational performance.

Green Human Resource Management

Green Human Resource Management (GHRM) developed in the late 1990s as a resource for focusing on environmental management in the manufacturing and hospitality industry sectors. The aim was on focusing environmental issues that occurred from production manufacture by hiring workforce who were more concerned of environmental issues (Ellegaard and Wallin, 2015). As businesses and civilization became more worried with the influence that companies have on the environment, GHRM was observed as having a wider influence on accomplishing environmental performance objectives at the organizational level, predominantly for those businesses who have an assessable effect on the environment (Agrawal and Tiwari, 2018). Companies have established several Green HRM practices that can be employed across the company (Agrawal and Tiwari, 2018; Alketbi and Rice, 2020; Barney, 1991; Gupta, 2018).

Green recruitment and selection, which employment practices that recognize forecasts who have a higher knowledge of environmental problems and participate in eco-friendlyactivities (Jabbour and Santos, 2008). Green training, which directs on enhancing awareness of environmental subjects, exercise workforces on best environmental employment trainings, and enhancement of employees' compassion to managerial environmental concerns (Kim *et al*., 2019). Green performance management and appraisal, which integrate distinct-based objectives focused on environmentally attentive actions that participate in better individual responsibility performance and executive environmental routine (Longoni *et al*., 2014). Green compensation and rewards, which combine both financial performance based and non-financial loots which are associated with job routine objectives (Miah *et al*., 2021). Green employee involvement, which refers to the point to which a worker is faithful to the environmental supervision of the company and their work. This comprises job fulfillment, employee commitment, organizational nationality, and professed organizational reinforcement (Miah *et al*., 2021).

Sustainability and Organizational Performance Measures

In modern years, organizations have shown expanding interest in implanting Green Human Resource Management (GHRM) into their global strategies as part of wider strengths to lower

environmental impact and succeed long-term strategic objectives (Ellegaard and Wallin, 2015). GHRM has progressively grown into a structured approach that affiliates human resource systems with environmental, social, and economic goals. As a result, a developing organization of research has studied how GHRM influences essential organizational results, involving green innovation, sustainable performance, and financial performance (Ren *et al*., 2018). This strategic change fundamentally reveals organizational reactions to scaling global environmental issues such as climate change, greenhouse gas emissions, and resource scarcity (Renwick *et al*., 2013; Renwick *et al*., 2015). Empirical studies suggest that organizations accepting GHRM practices can improve competitive advantage while also cutting costs through more effective use of resources (Rimanoczy and Pearson, 2010; Saeed *et al*., 2019). Though early implementation was mainly determined by supervisory compressions in developed countries such as the United States and the European Union, comparable environmental regulations and industry ethics have increasingly developed in developing countries including China, Malaysia, Vietnam, Indonesia, and India (Dumont *et al*., 2017; Tahir *et al*., 2020; Tranfield *et al*., 2003). These regulatory endeavors primarily focus environmentally rigorous sectors such as manufacturing, construction, hospitality, and healthcare. Environmental performance is frequently evaluated using values such as energy efficiency, waste reduction, and emission control, in manufacturing and construction sectors (Renwick *et al*., 2013; Renwick *et al*., 2015). In the hospitality industry, further prominence is placed on water conservation and stakeholder engagement in green initiatives (Wernerfelt, 1984). Through industries, sustainability certification standards such as LEED, ISO 14001, ISO 14064, and ISO 50001 are broadly used to supervise environmental performance and maintenance continuous enhancement of green systems (Renwick *et al*., 2015; Saeed *et al*., 2019; Wernerfelt, 1984; Yong *et al*., 2016; Yong *et al*., 2019; Yusliza *et al*., 2015).

Organizations have become more concentrating on adopting heavier sustainable objectives in accumulation to environmentally friendly objectives, GHRM practices have associated with overall structural performance. Sustainable performance in companies is measured through three keys areas: social impact, environmental impact, and economic impact. The analyses using sustainable performance as their system of measurement also indicate to these three areas of sustainability as a Triple Bottom Line Methodology (Rimanoczy and Pearson, 2010; Zupic and Čater, 2015). Assessing social, environmental, and economic consequences is reinforced by stakeholders' and employees' expectations for ethical practices and significant employment (Rimanoczy and Pearson, 2010; Zupic and Čater, 2015). From a company viewpoint, it also allows long-term eco-friendly and social aims to equilibrium short-term financial performance (Saeed *et al*., 2019; Zupic and Čater, 2015). Additionally, sustainable performance metrics are acquiescent with regulatory necessities and have an optimistic impression on corporate reputation (Saeed *et al*., 2019). For environmental attributes, the subsequent sustainable performance procedures and environmental performance procedures are the same: energy efficiency, waste management, and CO_2 emissions. In accumulation, the directory of sustainable actions comprises not only cost proficiency and viability (Saeed *et al*., 2019), but also improvements of workplace safety and satisfaction concluded green workroom ingenuities and green initiatives tackling resident societies (Zupic and Čater, 2015).

GHRM also promotes green innovation through employee behaviours and attitudes. Green innovation is observed as a pointer of an organization's competence to elaborate newproducts, services, or processes that are environmentally friendly (Agrawal and Tiwari, 2018; Elkington, 1997). Green innovation is acknowledged with strengthening a business's competitive advantages by appealing to eco-conscious customers and employees (Agrawal and Tiwari, 2018; Ren *et al*., 2018). Examples of green innovation comprise consuming eco-friendly materials (Gupta, 2018), the implementation of energy efficient technologies and practices to enhance resource practice and decrease of environmental influence (Tahir *et al*., 2020), and the practice of big data analytics and digital tools to drive green innovation in processes and products (Elkington, 1997; Ren *et al*., 2018). Green innovation is often viewed as a moderator between GHRM and sustainable organizational results (Gupta, 2018; Ren *et al*., 2018). The probable justification for this association reduces from connecting the difference between policy-level GHRM initiatives and realistic results. It converts environmental goals into measurable results (Elkington, 1997).

GHRM is also observed as one of the supports for attaining organizational objectives that is entrenched in social impression, reassuring green leadership (Ren *et al*., 2018), green employee engagement and organizational commitment (Ren *et al*., 2018), green citizenship (Saeed *et al*., 2019), and green organizational culture (de Souza Freitas *et al*., 2012; Renwick *et al*., 2015). chief executive environmental beliefs and leadership support are envisioned as key charioteers for GHRM employment (Alketbi and Rice, 2020; Ren *et al*., 2018), which, in focus, effects employee results, such as green employee commitment, green social responsibility, and employee promise. Using green management as an evaluation for the accomplishment of GHRM practices also finds to what scope green leadership profiles organizational culture and monitors the strategic implementation of GHRM (Ren *et al*., 2018; Renwick *et al*., 2015). Additionally, it completely effects employee commitment in eco-friendly practices (Saeed *et al*., 2019) and accelerates organizational change by incorporating GHRM into wider organizational plans (Alketbi and Rice, 2020; Ren *et al*., 2018). System of measurement for green leadership are exercise and development programs concentrating on eco-friendly awareness and sustainable management performs, co-operative

ingenuities where leaders' adoptive teamwork and innovation for environmental solutions, and the authorization of workforces to contribute green ingenuities through supervision and sustenance from leadership (Ren *et al*., 2018; Saeed *et al*., 2019). Like green innovation, green leadership also serves as a moderator between GHRM and organizational results, as it safeguards that GHRM practices are efficiently executed and prime to measurable results (Ren *et al*., 2018; Renwick *et al*., 2015) by positioning employee behaviour with organizational objectives (Alketbi and Rice, 2020; Ren *et al*., 2018).

Previous Reviews of GHRM and Organizational Performance

Using the SCOPUS database, we understood eight systematic literature studies that explored the connection between GHRM and at least one organizational performance degree. These examines take three distinctive attentions in their examine. Three of the journals (Norris and Oppenheim, 2007; Zupic and Čater, 2015) concentrate on evaluating the present position of study and journal. All three of these articles encapsulate the publication and research tendencies as the resolution to their core study question. One review (Renwick *et al*., 2013) runs through the theoretical grounds being used in the study to explain the correlation between employee green behaviours and sustainable performance. They found twenty-four diverse theories that describe the GHRM as an organizational performance correlation and advanced five groups of concepts which are suitable for fluctuating levels in the company. The staying four assessments take diverse methods in their study questions. Alketbi and Rice (Alketbi and Rice, 2020) directed on the connection between GHRM and employee consequences as it correlates to green behaviours and the influence on ecological/environmental performance (Tahir *et al*., 2020). Exclusively examine the correlation between employee green behaviours and environmental performance (Miah *et al*., 2021). Direct the experiences of executing efficient GHRM performance and how they affect employee outcomes as well as environmental performance (Saeed *et al*., 2019). Appearance at the correlation between GHRM, energy-saving behaviours, and environmental performance. Our study takes a different path than these preceding eight studies as we search to recognize the diverse organizational-level performance measures that are being used in the GHRM study, advance groups of performance outcomes, and description the key discoveries diagonally all these result measures.

Research Questions

The overarching question inquiries what subjects of organizational performance have been considered, predominantly as it relays to sustainability goals and whether executingthese Green Human Resource Management performs influence organizational performance. Particularly, this research aims to answer the following research questions:

RQ1: What are the modern study trends interpreting the impact of GHRM on organizational performance?

RQ2: What organizational performance measures and groups of measures are being usedin the study?

RQ3: What are the essential findings on the influence of GHRM on organizational performance?

RQ4: What are the confines and gaps of the present research?

RQ5: What are forthcoming directions for study and the best practices that can progressupcoming study?

To attend these questions, we did a systematic literature review using the PRISMA 2020 protocol (Tranfield *et al*., 2003) and AI tools to organize a bibliometric analysis (Ellegaard and Wallin, 2015; Zupic and Čater, 2015) of the prose. This study is distinctive in that it uniquely addresses how GHRM influences distinctive determines of organizational performance using AI tools for bibliometric analysis.

Green Human Resource Management (GHRM) has developed a well-recognized area of research within sustainability and strategic HRM, reflecting cumulative awareness of its role in supportive organizational sustainability across environmental, social, and economic dimensions (Miah *et al*., 2021; Norris and Oppenheim, 2007). GHRM aims on embedding environmentally responsible methods into core HR functions, fostering green employee behaviours, and supporting organizational goals with wider sustainability goals (de Souza Freitas *et al*., 2012; Dumont *et al*., 2017). Bibliometric and description reviews show a steady development of GHRM study, emphasizing key themes such as environmental performance, employee green behaviour, organizational commitment, and sustainability results (Gupta, 2018; Jabbour and Santos, 2008; Kim *et al*., 2019; Yong *et al*., 2019). Though, this frame of research continues fundamentally quantitative and focused on developed countries, accentuating the need for greater consideration to developing market environments (Longoni *et al*., 2014; Yong *et al*., 2019). Existing studies highlight the importance of organizational culture, leadership commitment, and encouraging HR policies in supporting the effective functioning of GHRM practices (Ren *et al*., 2018; Tranfield *et al*., 2003). The resource-based view and stakeholder theory are frequently used to explain how GHRM acts as a strategic resource that develops environmental performance while reinforcement relationships with key stakeholders (Barney, 1991; Tahir *et al*., 2020). Empirical findings constantly show that GHRM practices advanced employees' pro-environmental behaviours such as accountable decision-making and eco-friendly workplace behaviour which in turn participate to enhanced sustainability performance (Gupta, 2018; Renwick *et al*., 2015; Rimanoczy and Pearson, 2010). Although these advancements, the

adoption of fully integrated GHRM systems remains restrained. Sector specific research, specifically in healthcare, hospitality, and manufacturing, is shattered, limiting deeper contextual understanding of GHRM efficacy (de Souza Freitas *et al*., 2012; Ellegaard and Wallin, 2015; Wernerfelt, 1984). Moreover, while environmental results receive substantial attention, the social and economic dimensions of the Triple Bottom Line remain underexplored (Dumont *et al*., 2017; Dyllick and Muff, 2016). At the individual level, employees' environmental knowledge, values, and moral awareness meaningfully shape their reactions to GHRM plans (Jabbour and Santos, 2008; Renwick *et al*., 2015). At the organizational level, leadership support, and cultural alignment foster influence functioning success (Ren *et al*., 2018; Tranfield *et al*., 2003). But many studies need integrated multi-level frameworks relating individual, organizational, and institutional factors (Saeed *et al*., 2019; Yong *et al*., 2019). As a result, scholars progressively call for longitudinal, cross-cultural, and systemic research designs to better describe how integrated GHRM systems drive sustainable organizational performance (Longoni *et al*., 2014; Miah *et al*., 2021; Yong *et al*., 2019).

METHODOLOGY

To find the association between Green Human Resource Management (GHRM) and organizational sustainability, the researcher steered a systematic literature review, including the review, classification, and categorization of accessible literature according to the acknowledged procedures of Tranfield *et al*. (2003). The research also applied a bibliometric analysis methodology to organize specified knowledge on the existent literature affecting GHRM and organizational sustainability. The examine concentrates on the interval from 2015 to 2025, as this period saw the most major progress in GHRM articles. This procedure included five steps.

Database Selection

The current examines selected the Scopus database because it approaches a wide exposure of studies competed to further existing data bank Norris and Oppenheim (2007). Also observed that Scopus keeps large worldwide and district exposure of scientific records, thereby minimizing the risk of data demise. Additionally, Scopus is one of the largest databases, indexing superiority articles through a narrow content selection and autonomous re-assessment system.

Article Search Strategy

The analyses were obtained from the Scopus database using the keyword grouping: "Green Human Resource Management" OR "Green HRM" AND "organizational sustainability." These keywords were sought in the title, abstract, and keywords fields of the studies. The selection was constrained to articles and review articles, excluding book chapters, conference papers, and books. The period for the research paper was set from 2015 to 2025.

Study Collection Procedure

Based on the fixed measures for the topic of modern research, only 642 articles were at first recovered. Afterwards, the researchers physically explored the substance of these articles to organize the methodical literature review.

Final Selection

The final selection comprised a cautious selection process where researchers decided only those articles related to Green HRM and organizational sustainability. A significant step was the physical review of titles and keywords to make sure the leading themes were "Green HRM" and "Organizational sustainability." The chosen articles were then saved in a CSV format for the bibliometric analysis. Next this, the authors physically processed

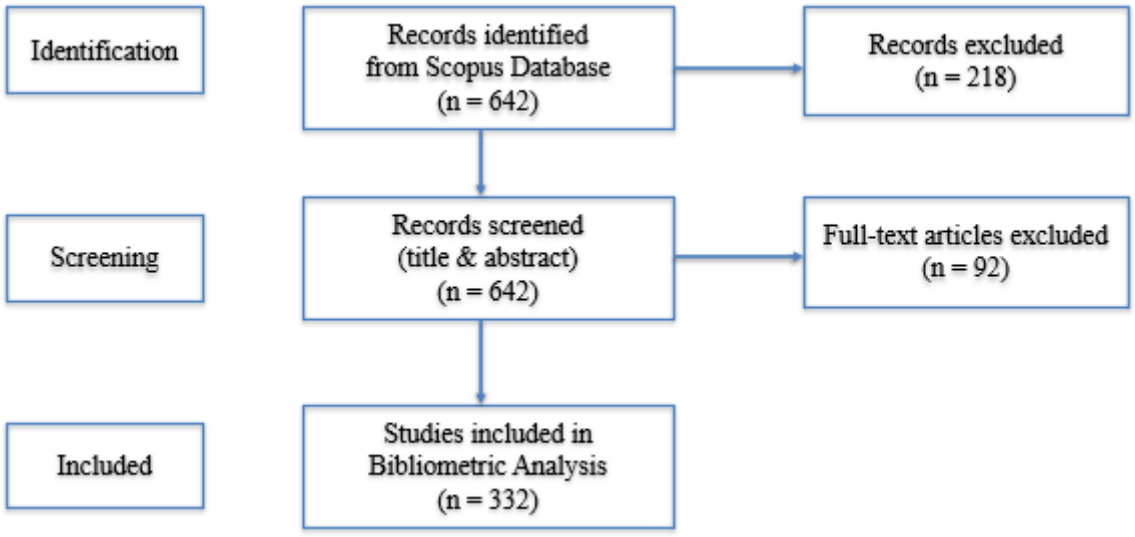


Figure 1: PRISMA flow diagram illustrates the identification, screening, and inclusion process used for selecting studies in bibliometric analysis.

the list additionally for the systematic review, finishing in a set of 332 articles (Figure 1).

Presentation of Results

The final stage implicated studying the extracted data using VOS viewer, visualization computer software used for bibliometric analysis. This method incorporates diverse examines, such as keyword co-occurrence networks, co-citation networks, and co-authorship networks, which are used in the terrestrial interpretation of bibliometric networks.

RESULTS AND FINDINGS

Review of Selected Articles

Table 1 summarizes key examines related to Green Human Resource Management (GHRM) and organizational sustainability, The most predominant terms in the research corpus on organizational sustainability and Green Human Resource Management (GHRM) are emphasized in the Natural Language Processing (NLP) generated word cloud created with Python (Figure 2). Prominent terms like "human resource," "green HRM," "sustainability," "resource management," and "performance" show up in larger text, representing their high frequency and dominant conceptual relevance in literature. The various thematic dimensions covered by present studies, from academic backgrounds and strategic organizational initiatives to environmental management practices and employee behaviour, are replicated in mid-sized terms like practice, employee, environmental, university, organizational, and innovation. This field frequently uses empirical and theory-driven research approaches, as demonstrated by methodological terms like study, modelling, relationship, analysis, and framework. The word cloud demonstrates the strong scholarly prominence on coordinative human resource practices with environmental and organizational performance results in the concise visual summary of how important GHRM concepts congregate around sustainability objects.

Bibliometric Analysis

The bibliometric analysis created via VOSviewer determines a well-defined thematic structure within the literature on Green Human Resource Management (GHRM) and organizational sustainability. Central keywords sustainability, green HRM, green human resource management, and human resource show with high frequency and dominate prominent positions within the network, indicating their crucial role in determining this academic domain. The resulting clusters demonstrate multiple connected research flows embracing GHRM practices, employee green behaviour, environmental management, and sustainable development (Table 2). The overlay visualization signifies a move toward evolving subjects such as green innovation, environmental economics, leadership, and artificial intelligence, gesturing an evolution of the field toward technologically reinforced sustainability exertions.

Co-Occurrence Network

The VOSviewer keyword co-occurrence network (Figure 3), based on data from Scopus, catches a clear picture of a connected research discipline. At its core are key terms like sustainability, green HRM, green human resource management, and environmental management these are the key topics that connect everything organized. These central keywords function as anchors, linking to diverse collections that correspond to the primary areas of study. These include HRM practices that provision environmental goals, factors persuading employees' environmentally responsive behaviours, sustainability performance results, and important research helps from Asian countries such as India, Malaysia, and Pakistan. The strong and intricate links in the network show that GHRM research is tightly attached, with employee behaviour performing as a critical link concerning HR practices and sustainability accomplishments. The overlay visualization exposes that the field is progressing, with more focus on topics like green innovation, leadership, and the role of technology in sustainability. Whole, this network demonstrates how GHRM study has moved outside traditional HR practices, adopting wider organizational, behavioural, and innovation-motivated depths on sustainability.

Co-Authorship Network

The author co-authorship network (Figure 4) establishes that relationships in Green Human Resource Management (GHRM) and organizational sustainability are spread. At the center, a close-knit group of researchers like Yusliza, Mohd Yusoff, Chiappetta Jabbour, and Paillé all work together frequently and have strong intellectual connections. External this main group, there are quite a few smaller teams and many individual authors who are supporting their particular or in small associations, making the research environment quite differed. Some authors, such as Piwowar-Sulej, Zeeshan Ahmed, Daisy Mui Hung Kee, Zuhair Abbas, and Masum Miah, each work individually or are



Figure 2: Word cloud of major GHRM and sustainability keywords.

Table 1: GHRM and Organizational Sustainability Studies.

Author(s)	Year	Study Focus	Significance of the Study
Renwick, Redman and Maguire	2013	Systematic review of GHRM using the AMO (Ability-Motivation-Opportunity) framework.	This foundational review explains how HR practices (recruitment, training, rewards, involvement) support environmental management. It establishes GHRM as a strategic pathway for developing employee abilities, motivation, and opportunities to engage in sustainable behaviour.
Khan and Faisal	2023	Systematic literature review and bibliometric analysis of GHRM-sustainability research.	Demonstrates that GHRM significantly contributes to organizational sustainability through employee green behaviour. Identifies research trends, gaps, and the importance of green culture and leadership in strengthening sustainability outcomes.
Yong, Yusliza, Ramayah, Fawehinmi, and Slegers	2019	Empirical testing of GHRM practices in Malaysian manufacturing organizations.	It shows that green recruitment and green training positively influence sustainability performance. Other practices (green appraisal, rewards) showed no significant impact, indicating the varying effectiveness of GHRM components.
Alketbi and Rice	2021	Review of GHRM's impact on employee outcomes and ecological performance.	Highlights that employee green behaviour is a mediator between HR practices and environmental performance. Suggests that individual-level responses are critical for achieving organizational sustainability.
Tahir *et al.*	2022	Examine link between employee green behaviour and environmental performance.	Confirms that employee-level green actions directly enhance environmental outcomes. The study strengthens the micro-macro connection between individual behaviour and organizational sustainability.
Miah, Szabo-Szentgróti, and Walter	2023	Reviews antecedents needed for effective GHRM implementation.	Identifies organizational factors (leadership support, resources, culture) required for implementing GHRM. Shows how these antecedents influence both employee outcomes and environmental performance.
Sahan, Jaaffar and Osabohien	2023	Studies GHRM, energy-saving behaviours, and environmental performance.	Demonstrates that GHRM enhances energy-saving behaviours, which significantly improve environmental sustainability. Highlights behavioural mechanisms as a key link between HR practices and green outcomes.

Table 2: Top Five Cited Articles on GHRM and Organizational Sustainability.

Authors	Year	Journal	Citations
B. B. Saeed, B. Afsar, S. Hafeez, I. Khan, M. Tahir, and M. A. Afridi	2019	Corporate Social Responsibility and Environmental Management	743
S. Ren, G. Tang, and S. E. Jackson	2018	Asia Pacific Journal of Management	626
J. Y. Yong, M. Y. Yusliza, T. Ramayah, C. J. Chiappetta Jabbour, S. Sehnem, and V. Mani	2020	Business Strategy and the Environment	506
R. Chaudhary	2020	Corporate Social Responsibility and Environmental Management	466
D. W. S. Renwick, C. J. Chiappetta Jabbour, M. Müller-Camen, T. Redman, and A. Wilkinson	2016	International Journal of Human Resource Management	385

segments of small, associated groups, frequently connected to specific areas or subjects. The overlay visualization emphasizes coherent publication activity from 2020 to 2024, which shows balanced progression and continuing attention in the discipline. While a center group of scholars work in partnership closely, the wider GHRM research community is made up of many independent providers, indicating both the range and the split stripe of research in this region.

Country Co-Authorship Network

Sustainability standpoints out as the extremely predominant and consistent perception in the VOSviewer country industry keyword co-occurrence map (Figure 5), involving an array of countries and industry regions in the dataset. Strong connections to countries like China, Indonesia, India, Turkey, Nigeria, Malaysia, and Pakistan establish how essential sustainability study is in developing countries. Hospitality, hotel industry, software, health

care, and employee training are specimens of industry correlated terms that distinctly relay to sustainability and green human resource management. This indicates that service-based areas are progressively studying environmentally concentrating HRM methods. The overlay visualization emphasizes the cumulative integration of sustainability concerns into organizational roles through many regional and industrial perspectives, as proved by the modern spike in studies published between 2023 and 2025. The map indicates a flourishing attention on research incorporating sustainability theories into HRM and business practices, specifically in rapidly developing Asian countries.

LIMITATIONS OF THE STUDY

This research specifies essential comprehensions into how Green Human Resource Management (GHRM) associates with organizational sustainability; there are some constraints to watch in concentration. First, we depend on specially on the Scopus database for our analysis. Though Scopus is absolute, this method may have missed related studies that are untaken in other records like Web of Science, Google Scholar, or IEEE Xplore. Second, our study focused on study published between 2015 and 2025, so we might have oversaw beforehand foundational work or actual current studies that have not yet occurred in the database. Third, our bibliometric results are vastly dependent relative to reliable keyword use. Variations in terms through studies could mean that some sections of study were diminished. Fourth, the analysis

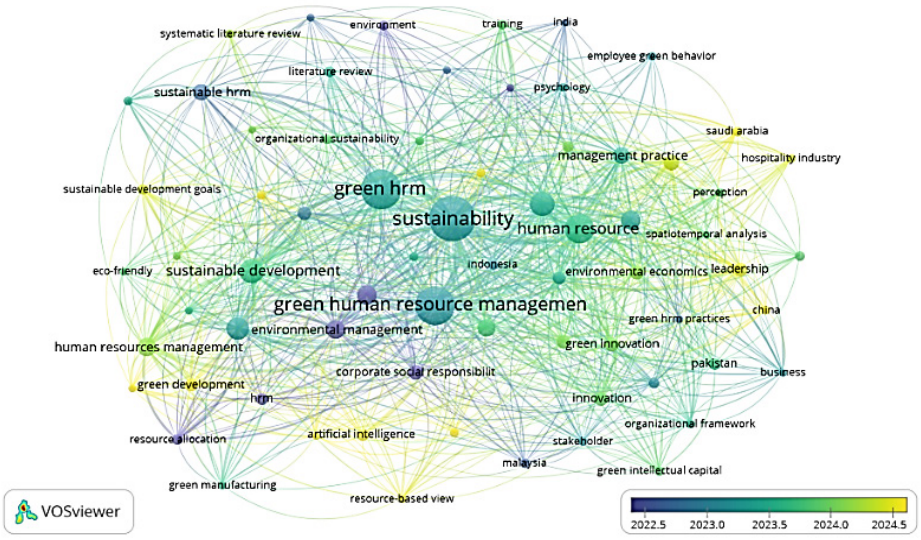


Figure 3: Co-occurrence network for GHRM literature.

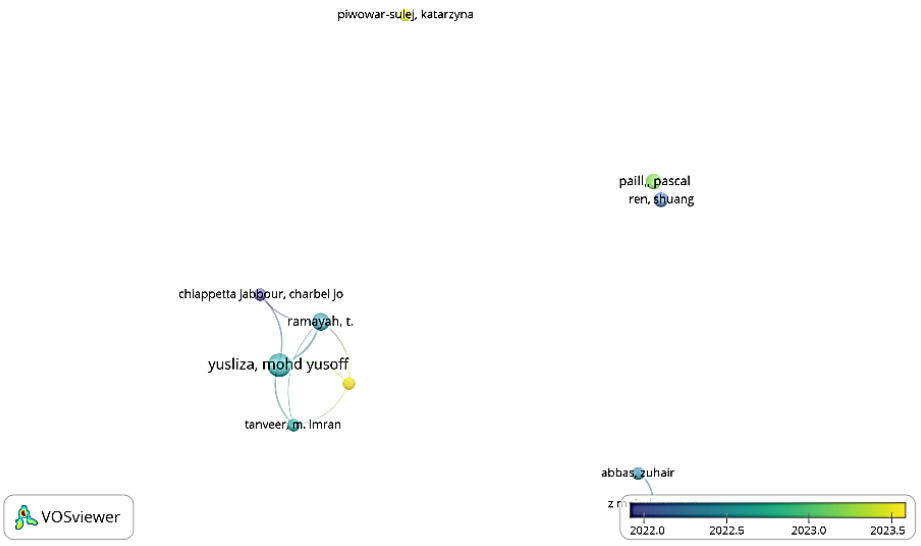


Figure 4: Co-authorship map in GHRM studies.

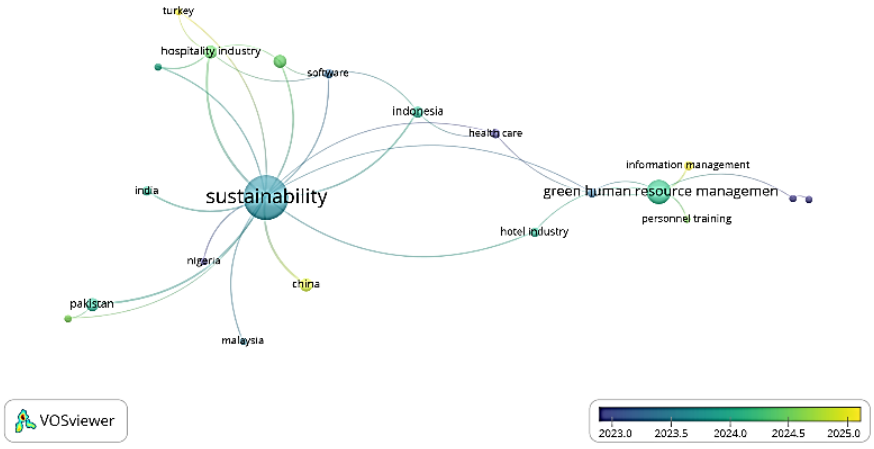


Figure 5: Country keyword network for GHRM research.

of author and country relationships demonstrated that research collaborations are split, which means our dataset might not secure the full bounds of global alliance. Lastly, the inclusive range of research designs and conceptual methods in the reviewed studies made it tough to oversee a meta-analysis, so we had to depend on qualitative synthesis instead of creating the cause-and-effect associations.

FUTURE SCOPE

Future research can strengthen and stretch our understanding of this discipline by extracting data from multiple intellectual sources such as Web of Science, IEEE Xplore, and Google Scholar for a more widespread picture. Studying GHRM practices across diverse cultures and regions, specifically in areas like healthcare, information technology, and education, would add valuable perspective and help us see how these performances play out in changed environments. Long-term studies that track shifts in GHRM over time would also be helpful in explaining how these practices influence sustainability. In adding together, using analytical methods that look at the individual, organizational, and institutional levels collected could indicate stronger and more nuanced descriptions. New topics like artificial intelligence, digital HRM, green leadership, and circular economy strategies are promising as stimulating areas for both research and practical application. Finally, establishing standardized approaches to measure social and economic sustainability will help future researchers better measure GHRM's full effect on the triple bottom line.

CONCLUSION

In this research, we clutched out a systematic literature review and bibliometric analysis to discover and map modern learning about how Green Human Resource Management (GHRM) connects to organizational sustainability. By concentrating on study from 2015 to 2025, we planned to address gaps in the literature and offer newfound perceptions into the progressing role GHRM plays in helping companies accomplish their sustainability targets. Our examination distinctly shows that GHRM has a meaningful positive effect on organizational sustainability, with employee behaviour acting as a main link between HR systems and sustainable results. We found that fundamental GHRM practices such as green recruitment, training, performance management, compensation, and employee involvement work composed to advance environmental performance, boost energy-saving behaviours, and enhancement a company's overall social and environmental accountability. The results strengthen the indication that GHRM can be a strategic resource for organizations, supporting a surviving competitive edge by positioning people tactics with wider sustainability aims.

The bibliometric analysis using VOSviewer spread exposed that study in this area is strong and progressively interdisciplinary. Network visualization emphasizes a strong connection relating to GHRM applies and positive sustainability outcomes. Prominently, current studies are commencing to discover new themes like green innovation, green leadership, and the use of artificial intelligence in sustainability, indicating a forward-looking direction for the discipline. Although these developments, respective foremost gaps and limitations remain:

Inadequate Understanding of Procedures and Culture: We however lack a clear picture of precisely how GHRM methods help design a green organizational culture, and how this culture impacts environmental and complete sustainability performance.

Requirement for Wider Measurement: Most studies focus on environmental results, but there is a requirement for more complete research that looks at the full field of the Triple Bottom Line social, environmental, and economic impacts.

Context and Cultural Gaps: Most prevailing discoveries are based on Western contexts or a few developing economies like Malaysia and Pakistan, creation it difficult to know how these performs work in other counties or industries such as healthcare or pharmaceuticals.

The exploration positions a solid foundation for understanding how GHRM assists organizational sustainability. Moving forward, we encourage future researchers to conduct research that study cause-and-effect associations, use long-term data, and study cross-cultural perceptions to fully recognize how cohesive GHRM systems can prime to greater organizational effectiveness and sustainable development.

ABBREVIATIONS

AI: Artificial Intelligence; **AMO:** Ability-Motivation-Opportunity; **CO_2:** Carbon Dioxide; **CSV:** Comma-Separated Values; **GHRM:** Green Human Resource Management; **HR:** Human Resource; **HRM:** Human Resource Management; **ISO:** International Organization for Standardization; **LEED:** Leadership in Energy and Environmental Design; **NLP:** Natural Language Processing; **PRISMA:** Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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