

# Mapping the Landscape of Green Human Resource Management (GHRM): A Bibliometric Approach

Kanagasapabathy Sapthaswaran<sup>1</sup>, Ben-Chang Shia<sup>1</sup>, Chen-Ming Chih<sup>1</sup>, Chung-Ling Huh<sup>2\*</sup>

<sup>1</sup>Graduate Institute of Business Administration, Fu Jen Catholic University, New Taipei City

<sup>2</sup>Department of Accounting, Fu Jen Catholic University, New Taipei City

Email: \*142920@mail.fju.edu.tw

**How to cite this paper:** Sapthaswaran, K., Shia, B.-C., Chih, C.-M., & Huh, C.-L. (2025). Mapping the Landscape of Green Human Resource Management (GHRM): A Bibliometric Approach. *Technology and Investment*, 16, 152-171.

<https://doi.org/10.4236/ti.2025.163009>

**Received:** July 11, 2025

**Accepted:** August 9, 2025

**Published:** August 12, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

This paper employs a bibliometric approach to comprehensively map the landscape of Green Human Resource Management (GHRM), addressing the absence of systematic analyses in the existing literature. GHRM, encompassing strategies fostering employee environmental awareness, has become pivotal as organizations recognize the need for sustainable practices among Asian countries. The study employs VOSviewer and Biblioshiny to analyze bibliographic data from the Web of Science (WoS) database from 2015 to 2024; search queries incorporating keywords such as “Green HRM”, “Eco-friendly HR practices”, and “Sustainable HRM” are formulated to capture the breadth of research in this field. We found 198 papers related to the GHRM in the Asian Context for analysis. They are revealing co-authorship networks, keyword co-occurrence, and citation patterns. Key objectives include identifying research themes, distribution across journals, and influential authors. Findings highlight the rise of GHRM as a pivotal component of sustainable business strategies, with China, Pakistan, and Malaysia leading in contributions. Central themes such as sustainability, green supply chain management, and environmental performance are underpinned by foundational works from prominent researchers and offer a nuanced understanding of GHRM’s current state and provide valuable insights for researchers, practitioners, and policymakers seeking to advance organizational sustainability. We found a forward-looking research agenda emphasizing interdisciplinary approaches, global inclusivity, and integration with corporate social responsibility and ESG frameworks. By consolidating existing knowledge and highlighting trends, this study contributes to the ongoing dialogue on creating green workplaces and eco-friendly practices, emphasizing the importance of integrating environmentally sustain-

\*Corresponding author.

able practices into HR strategies.

## Keywords

Bibliometric Analysis, Green HRM, Eco-Friendly HR Practices, Sustainable HR

## 1. Introduction

Green Human Resource Management (GHRM) has emerged as a critical domain of study in response to the global imperative of integrating environmental sustainability into organizational practices. GHRM focuses on as it is a field concerning greening the firms and making them eco-friendly (Sharma et al., 2022). As businesses increasingly recognize the impact of their operations on the environment, the role of human resource management in promoting sustainability has gained prominence. Wehrmeyer introduced the concept of green human resources management in 1996 (Rawat & Rawat, 2021).

This study's primary motivation and objective is to analyze the development and trends of GHRM literature (Shah et al., 2024). GHRM encompasses strategies, policies, and practices to foster environmental awareness and responsibility among employees. While some Asian countries have significantly contributed to GHRM research, the overall volume of studies remains limited (Novianti & Rumijati, 2023). GHRM focuses on protecting the environment through human resource management, and HRM can contribute to green outcomes (Khan & Muktar, 2020). Sustainability concerns are adopting socially and environmentally responsible practices throughout the supply chain, including sourcing, production, and distribution (Mahajan et al., 2024). Despite growing interest in GHRM, there is a notable absence of a systematic analysis of the research landscape. To address this gap, the article employs bibliometric methodologies to provide an in-depth literature analysis, highlight key themes, and recommend potential directions for future research. Environmental sustainability has become a critical component of organizational activities in the current global context. Because of this acknowledgment, green human resource management (GHRM) has become a vital and developing subject of study (Hussain et al., 2023). For this study, 'Asia' includes countries geographically situated in East Asia, South Asia, Southeast Asia, and parts of the Middle East and Central Asia, including China, India, Pakistan, Malaysia, Saudi Arabia, Türkiye, Indonesia, Vietnam, Iran, and others. Focusing on Asia is crucial given the region's rapid industrialization, unique sustainability challenges, and emerging leadership in GHRM scholarship.

The growing recognition of the extensive environmental impact of company operations has led to an increased focus on the role of human resource management in promoting sustainability. By adopting sustainable procurement practices, organizations can reduce their environmental impact, promote social responsibil-

ity, and create economic benefits for suppliers and stakeholders (Atarah et al., 2024). Nowadays, companies are concerned about sustainability and prefer to practice social and environmental responsibility (Choudhary & Datta, 2024). GHRM is a holistic approach that involves developing and implementing practices, policies, and initiatives to foster environmental responsibility and employee awareness (Tang et al., 2018). GHRM practices in management processes enhance employee awareness of environmental issues and boost sustainable performance (Hue & Dinh-Hai, 2024). ESG performance can positively impact firm value by enhancing stakeholder relationships, increasing social legitimacy, optimizing resource allocation, and sending positive market signals (Li et al., 2024). It extends beyond traditional HR functions, influencing employee behavior, fostering a culture of environmental awareness, and aligning organizational objectives with sustainable practices.

This holistic approach to human resource management acknowledges the interconnectedness of organizational success and environmental impact. This study aims to develop nuanced insights that can inform scholarly research and practical applications within organizations seeking to embrace green and sustainable practices.

## 2. Method

GHRM is a broad area, so it has been known as sustainable in recent years. It should be considered in all organizational and personnel contexts to protect the environment for future generations. Considering that, the following questions will be answered in the context of Asian countries.

RQ1. How many articles on Green Human Resource Management (GHRM) have been published in Asia between 2014 and 2024 in major academic databases (Web of Science)?

RQ2. Which journals in Asia have the highest citation impact on Green Human Resource Management (GHRM), based on impact factor, total citations, or h-index?

RQ3. How many Asian countries have contributed to peer-reviewed publications on Green Human Resource Management (GHRM)?

RQ4. What are Asia's most common keywords and themes associated with Green Human Resource Management (GHRM)?

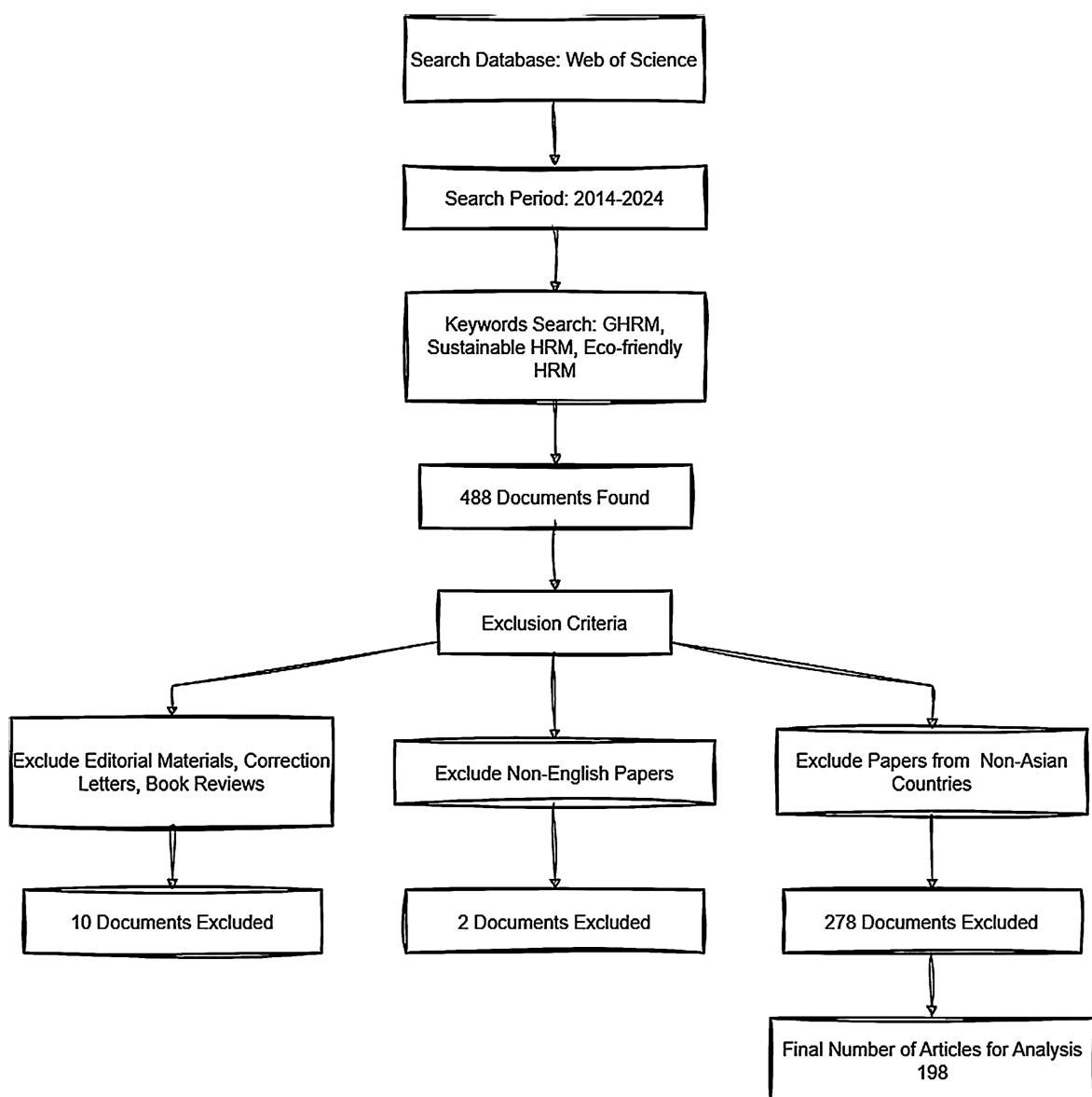
RQ5. Who are the most influential authors in Asia's Green Human Resource Management (GHRM), based on publication volume, citation count, or other impact metrics?

### 2.1. Research Process

This study uses bibliometric analysis to analyze data extracted from the Web of Science database (WoS). Specific keywords were entered to obtain data for analysis (Faheem et al., 2024). It is a quantitative evaluation technique that determines the bibliographic data on academic data (Mehta, 2023). For this study, citation analysis, co-citation analysis, bibliographic coupling among authors and coun-

tries, keyword co-occurrence analysis, and co-authorship analysis were undertaken. Visualizing the bibliometric network, often called the mapping of science, constitutes an advanced tool for studying the science (Fachada et al., 2022). To ensure greater comprehensiveness, future versions of this study should incorporate bibliographic data from multiple databases, including Scopus, Google Scholar, and Dimensions. This would mitigate database bias and capture a broader scope of relevant GHRM literature. Additionally, including non-English publications, especially those from Asian countries where regional languages dominate scholarly output, would enrich the analysis and enhance cultural inclusivity. The search criteria for the analysis are shown in **Figure 1**.

## 2.2. Searching Criteria



**Figure 1.** Search criteria to extract research papers in GHRM.

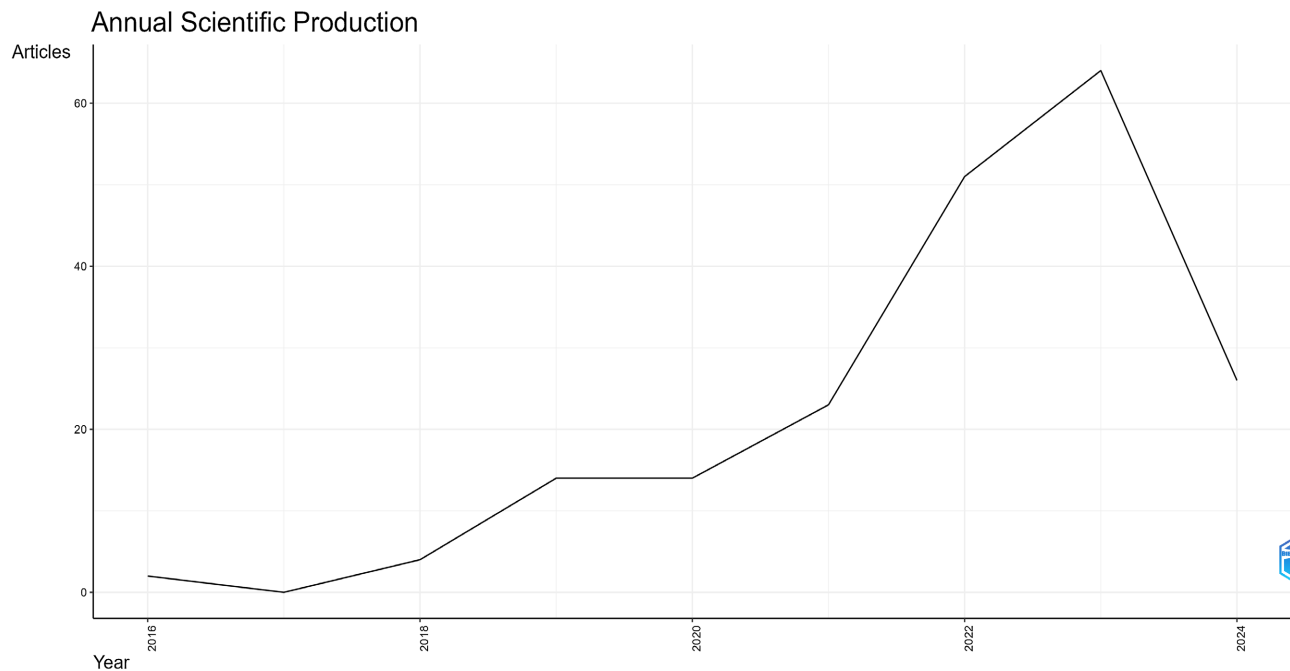
### 2.3. Software

For this paper, we employed VosViewer and Biblioshiny as part of the R code program to analyze the data (Aria & Cuccurullo, 2017). Bibliometric analysis will be supported for visualizing similarities and mapping the study's techniques (Fachada et al., 2022). We used biblioshiny to evaluate the graphs and table for our study (van Eck & Waltman, 2017). GHRM researchers use bibliometric techniques to study and assess authors, publications, journals, and countries.

## 3. Result and Analysis

### 3.1. Publication Trend by the Year in GHRM among Asian Countries

Publications trend by the year, as shown in **Figure 2**, presents the increase in publications from 2015 to 2024, the total number of publications grew from just 3 in 2015 to 64 in 2023, demonstrating a more than 20-fold increase (see **Table 1**). This rise in research can be attributed to organizations and companies increasingly focusing on environmental issues and sustainability. The relevance of Human resources management has brought this change to a deeper level.



**Figure 2.** Annual scientific production in GHRM.

**Table 1.** Publications trend by year in GHRM.

Year	No of Articles
2016	2
2017	0

**Continued**

2018	4
2019	14
2020	14
2021	23
2022	51
2023	64
2024	26
<b>Total</b>	<b>198</b>

Source: Author's calculation.

### 3.2. Publications by Countries in GHRM

This study focused solely on Asian nations and analyzed articles written in the English language. China led with 68 publications (34.3%), followed by Pakistan with 42 publications (21.2%), and Malaysia with 28 publications (14.1%). It has been observed that most publications reveal China to be the most influential country in GHRM research and regional collaboration, with prominent contributions from Pakistan, Malaysia, India, and emerging research hubs such as Saudi Arabia and Türkiye.

### 3.3. The Most Productive Journals of GHRM

**Table 2** provides insights into the top productive journals in GHRM based on their number of publications. The bibliometric analysis reveals vital insights into these journals, highlighting significant trends and patterns in the research landscape.

**Table 2.** The most productive journal and sources of GHRM.

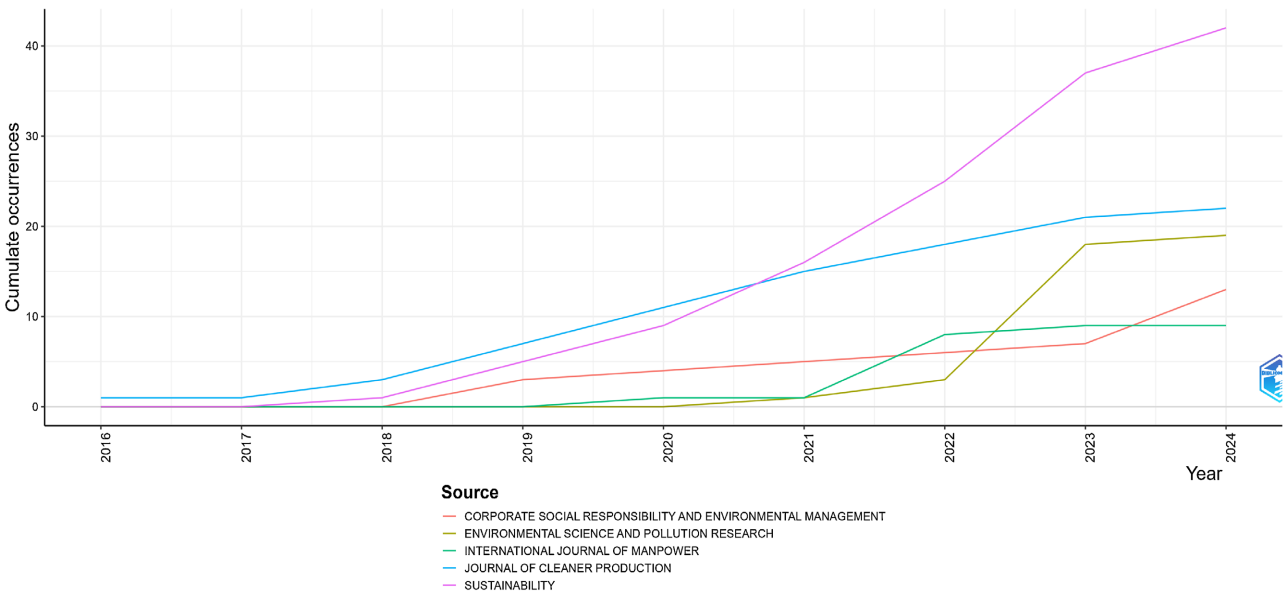
Rank	Journal	Publications	Key Research Areas	Latest Year	Citation Impact
1	Sustainability	42	Business & Economics; Environmental Sciences & Ecology	2024	42
2	Journal of Cleaner Production	22	Business & Economics	2024	22
3	Environmental Science and Pollution Research	19	Science & Technology—Other Topics; Environmental Sciences	2024	19
4	Corporate Social Responsibility and Environmental...	13	Environmental Sciences & Ecology	2024	13
5	International Journal of Manpower	9	Environmental Sciences & Ecology	2024	9
6	Frontiers in Psychology	6	Psychology	2024	6

Continued

6	Employee Relations	6	Science & Technology—Other Topics	2024	6
6	Frontiers in Environmental Science	6	Business & Economics	2024	6
9	Heliyon	5	Science & Technology—Other Topics; Engineering	2024	5
10	Environment Development and Sustainability	4	Science & Technology—Other Topics; Environmental Sciences	2024	4

Source: Author’s calculation.

According to **Figure 3**, sustainability is the leading journal with 42 publications, showcasing its central role in addressing themes at the intersection of business, economics, and environmental sciences. The Journal of Cleaner Production (22 publications) and Environmental Science and Pollution Research (19 publications) closely follow. Both emphasize sustainability and environmental issues, reflecting the growing academic interest in these fields.



**Figure 3.** Publication of articles in the reputed Journals.

The primary research domains represented in these journals include Business & Economics, Environmental Sciences, and Psychology. Journals like Sustainability and Journal of Cleaner Production exhibit strong multidisciplinary appeal, addressing various topics related to sustainable development, corporate responsibility, and ecological impact. In contrast, journals such as Frontiers in Psychology and International Journal of Manpower focus more narrowly on specialized themes, such as behavioral sciences and human resource management. Diversity in research topics varies across journals.

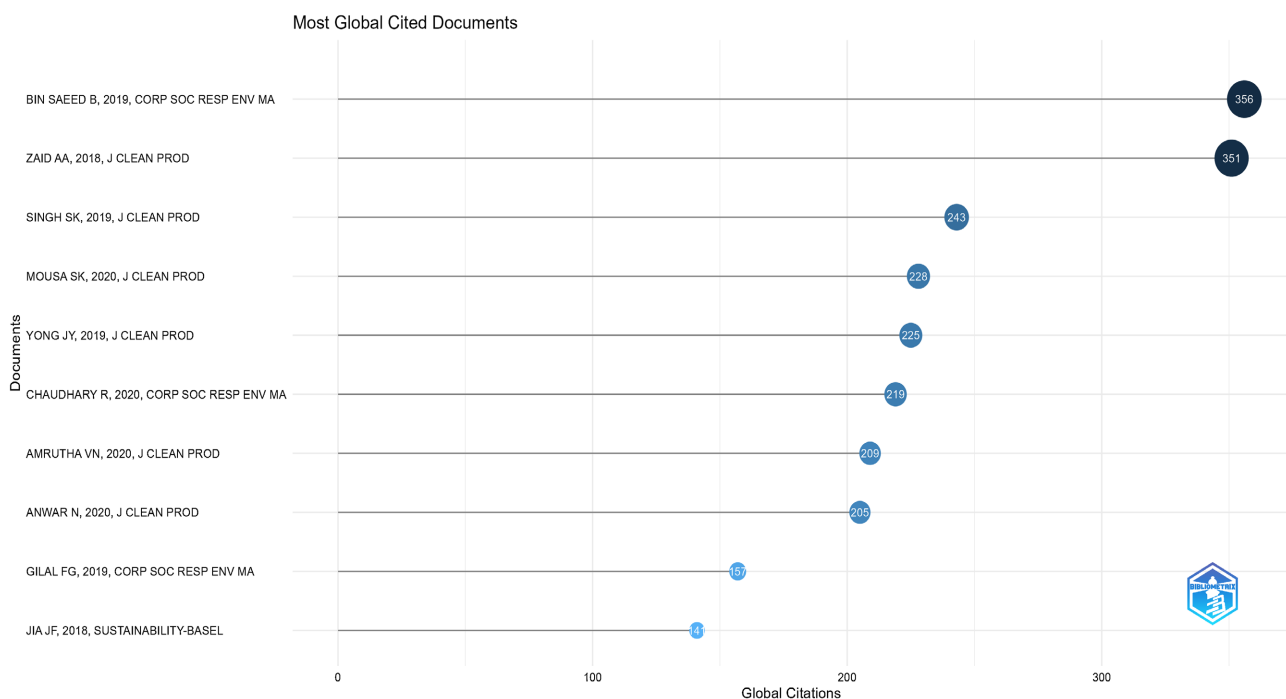
Emerging journals, such as Heliyon and Environment Development and Sus-

tainability, contribute fewer publications but indicate growth potential, particularly in addressing niche or evolving topics. These journals offer researchers opportunities to publish focused work in areas that may still be underrepresented in more established venues.

All top journals in the dataset show publication activity in 2024, signaling their relevance to the current research discourse. The dominance of sustainability-related journals underscores the global prioritization of environmental and socio-economic issues in scholarly research. This trend also underscores the importance of multidisciplinary platforms in promoting innovation and collaboration across various fields.

### 3.4. Globally Cited Articles Written by Asian Researchers

**Figure 4** showcases the most globally cited documents, highlighting their significant academic impact. The top-cited works are [Bin Saeed et al. \(2019\)](#), with 356 citations, and [Zaid et al. \(2018\)](#), with 351 citations. Other notable contributions include [Singh et al. \(2019\)](#), with 243 citations; [Mousa & Othman \(2020\)](#), with 228 citations; and [\(Kim et al., 2019\)](#), with 223 citations. [Chaudhary \(2020\)](#) follows closely with 219 citations, while [Amrutha & Geetha \(2020\)](#) and [Anwar & Abdullah \(2020\)](#) have 209 and 205 citations, respectively. These articles are published in prominent journals, such as the Journal of Cleaner Production, Corporate Social Responsibility and Environmental Management, and Sustainability-Basel, reflecting their relevance in the fields of sustainability and corporate responsibility.

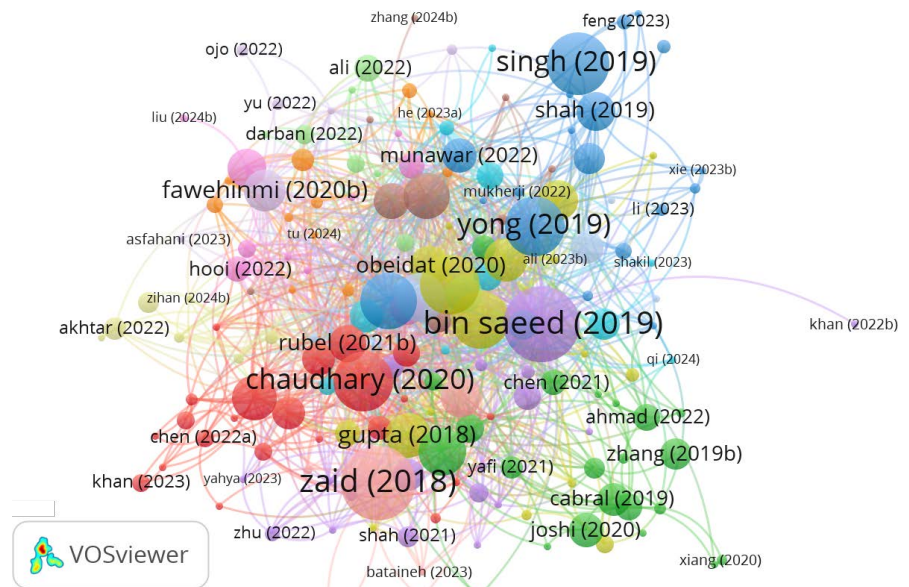


**Figure 4.** Globally cited articles written by Asian researchers.



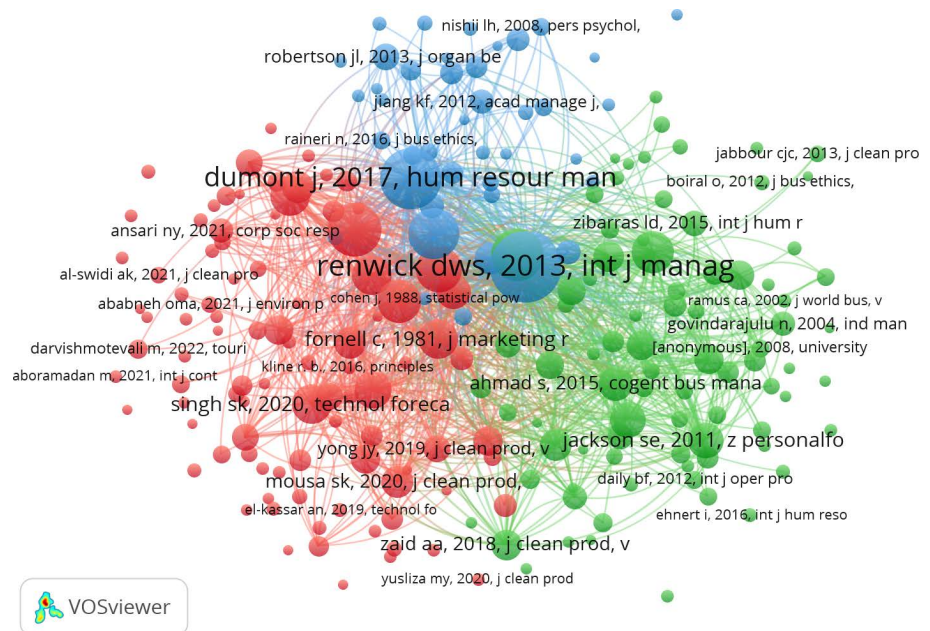
### 3.5. Bibliometric Analysis

#### *Citation analysis*



**Figure 5.** The impact and relevance of specific works within the broader research area.

#### *Co-citation analysis*



**Figure 6.** The intellectual structure of a research field, including its underlying themes.

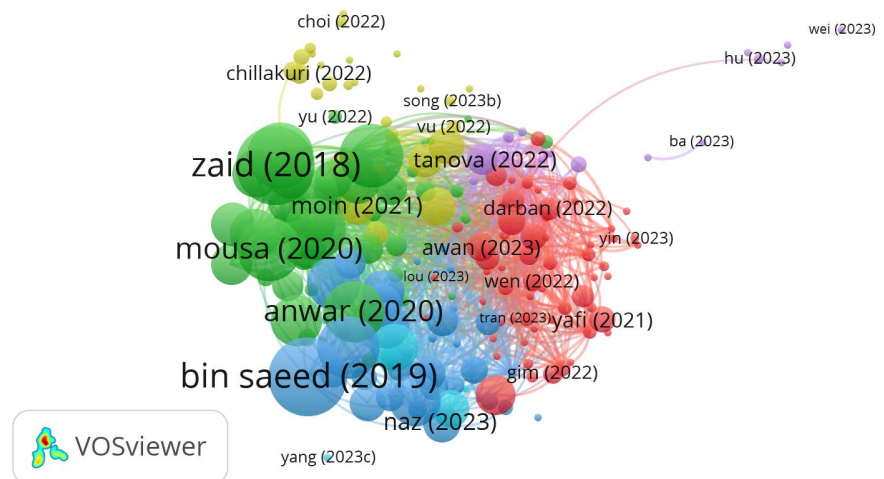
#### 3.5.1. Citation and Co-Citation Analysis

Citation analysis is the technique used to determine the relationships among various publications. The visualization indicates the citation links between publications, with thicker lines indicating more frequent citations. These relationships reveal the impact and relevance of particular works within the broader research

area, as shown in **Figure 5**. The impact and relevance of certain works within the broader research area **Bin Saeed et al. (2019)** and **Zaid et al. (2018)** have the highest intellectual and influential linkage.

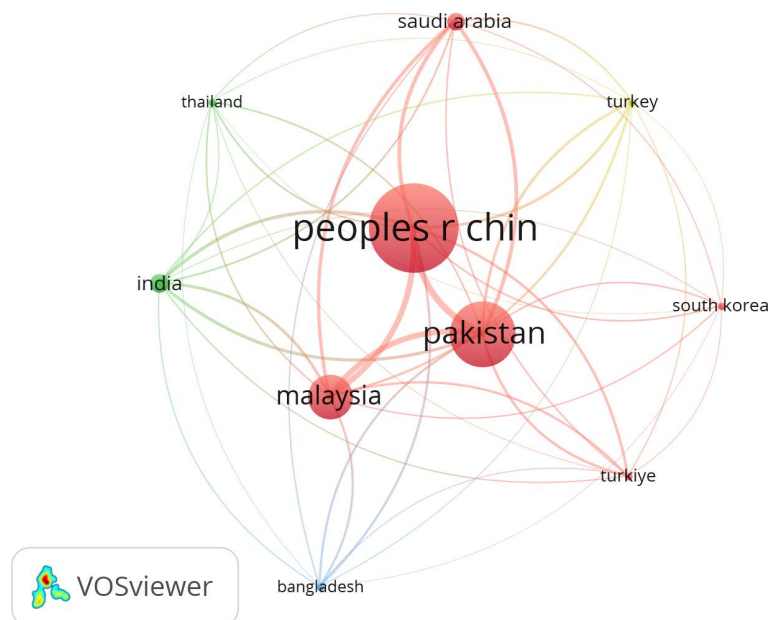
On the other hand, Co-citation analysis is revealed, as shown in **Figure 6**. It illustrates the conceptual framework of a research domain, highlighting its core themes. **Renwick et al. (2013)** and **Dumont et al. (2017)** are the cornerstones of their research areas. Foundational themes reveal the main areas of focus in the field, such as human resource management, environmental sustainability, and operations management.

#### *Bibliographic coupling*



**Figure 7.** The network indicates a significant number of shared references with other works.

#### *Bibliographic coupling among countries*



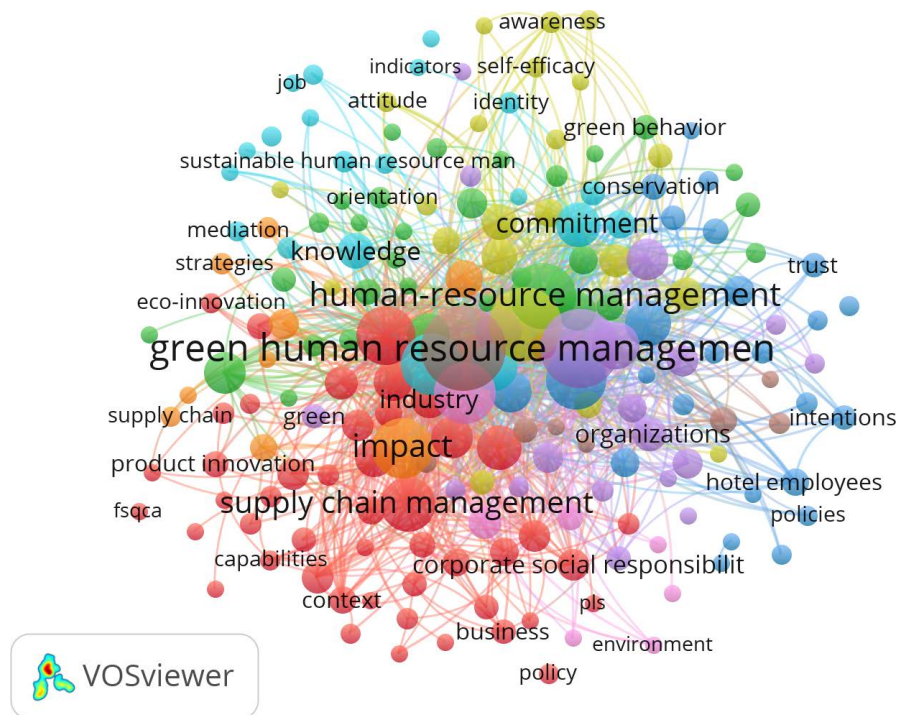
**Figure 8.** The network shows a high degree of regional collaboration.

### 3.5.2. Bibliographic Coupling

Visualization of bibliographic coupling, which is shown in **Figure 7**. The network indicates a significant number of shared references with other works. How publications are linked based on shared references. Key Influential Publications: **Zaid et al. (2018)**, **Bin Saeed et al. (2019)**, **Mousa & Othman (2020)**, and **Anwar & Abdullah (2020)**. These publications are the most prominent nodes in the network, indicating a significant number of shared references with other works. This suggests that **Zaid et al. (2018)** is a foundational paper frequently referenced by other researchers.

The bibliographic coupling analysis among countries shown in **Figure 8**. The network demonstrates a significant level of regional cooperation. It indicates that China is the leading country in GHRM research. The network highlights a strong degree of regional collaboration, showcasing notable contributions. A high degree of regional collaboration from Pakistan, Malaysia, India, and emerging research hubs like Saudi Arabia and Türkiye.

#### *Keyword analysis*

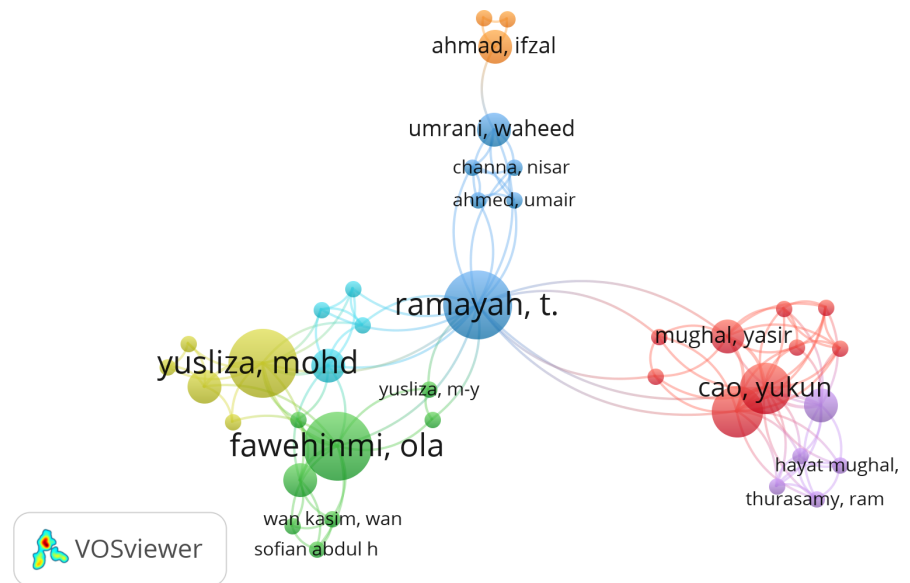


**Figure 9.** The keywords or phrases appear within the literature.

### 3.5.3. Keyword Analysis

The keyword analysis helps to identify the frequency of occurrence of specific keywords or terms within the literature, as shown in **Figure 9**. Identify the clusters or groups of terms that frequently co-occur and explore interdisciplinary connections. The most frequent keywords were “sustainability” (appeared in 78 papers), “green HRM” (65), “environmental performance” (54), and “employee behaviour” (47).

### Co-authorship analysis



**Figure 10.** The relationships or social connections between authors.

#### 3.5.4. Co-Authorship Analysis

The relationships or social connections between authors, as shown in **Figure 10**. The co-authorship analysis highlights the central role of T. Ramayah and Yukun Cao in their respective research networks. These findings underscore the importance of key authors in facilitating research collaboration and the potential for cross-cluster partnerships to enhance interdisciplinary research efforts.

## 4. Discussion

This bibliometric analysis has thoroughly examined the Green Human Resource Management (GHRM) environment, particularly within the Asian context. The study highlights vital research trends, influential publications, and collaborative networks. These results emphasize the necessity of incorporating environmental sustainability into human resource strategies and offer several theoretical and practical implications for advancing the field. Several scholars have expanded on the scope of GHRM to include sustainable HRM concepts, including Opatha's work on sustainable HR practices (Opatha, 2019).

The results of the study deepen the theoretical comprehension of Green Human Resource Management (GHRM) by highlighting its importance within sustainability and human resources contexts. It emphasizes the necessity for HR practices to align with organizational objectives and tackle environmental issues, thus aiding in achieving global sustainability targets such as the United Nations' Sustainable Development Goals (SDGs). On a practical level, this research provides valuable recommendations for policymakers and organizational leaders, stressing the need to incorporate green initiatives into HR policies to cultivate environmentally aware workplaces.

#### 4.1. Mapping GHRM Research Evolution

The bibliometric analysis underscores the dynamic evolution of GHRM research, particularly its rapid growth in the past decade. The sharp rise in 2023 suggests a peak in attention, possibly influenced by global environmental policies or corporate pressures. The increasing number of publications, especially in the last five years, reflects the growing importance of sustainability in organizational strategies. The heightened focus on GHRM underscores its alignment with global trends that emphasize environmental responsibility and sustainable development. This reflects an increasing recognition of the strategic role HRM plays in fostering environmental sustainability. Our paper reinforces the theoretical alignment between HRM strategies and sustainability frameworks, such as the Resource-Based View (RBV) and Stakeholder Theory (Kulkov, 2021). The findings align well with the Resource-Based View (RBV), which posits that organizations can gain sustained competitive advantage through strategic internal resources, including environmentally conscious HR practices (Barney, 1991). Green HRM, in this context, becomes a valuable, rare, and inimitable capability contributing to firm-level sustainability.

Simultaneously, Stakeholder Theory (Freeman, 1984) emphasizes the importance of addressing the concerns of multiple stakeholder groups. GHRM practices, such as employee engagement in green initiatives and corporate responsibility, directly contribute to satisfying the environmental and ethical expectations of stakeholders.

#### 4.2. Emerging Themes in GHRM

Key themes, such as sustainable supply chain management, employee green behavior, and the role of transformational leadership in promoting green innovation, have emerged as critical areas of focus (Zhao & Huang, 2022). These highlight an interdisciplinary nexus but also suggest a need for deeper exploration of underrepresented topics like employee well-being in green initiatives and a shift from traditional HR practices to a more integrated approach that includes ecological considerations, contributing to the development of Green HR theories.

#### 4.3. Influential Publications and Authors

The study identified foundational works and authors shaping the intellectual discourse in GHRM. The prominence of co-citation networks involving researchers such as Renwick and Dumont highlights the interdisciplinary nature of GHRM, bridging organizational behavior, environmental management, and HRM. Authors like Ramayah and Cao show strong research networks, emphasizing the importance of collaboration in advancing the field.

#### 4.4. Regional Focus and Collaboration

The analysis revealed significant contributions from Asian countries, with China leading the research output. The solid regional collaboration suggests that GHRM



is particularly relevant in emerging economies where sustainability challenges are pressing.

#### 4.5. Practical Implications for HR Professionals

The findings of this study offer several actionable insights for HR managers aiming to integrate Green Human Resource Management (GHRM) practices into organizational strategies. **Table 3** provides essential implications particularly relevant for HR practitioners in the Asia-Pacific region, where sustainability challenges and opportunities are distinct.

**Table 3.** Practical implications for HR managers.

Key Area	Actionable Recommendations
Green Training Programs	Develop workshops to increase employee awareness of sustainability goals.
Leadership Development	Train leaders in green transformational leadership to drive innovation.
Policy Integration	Align HR policies with global ESG frameworks to attract eco-conscious talent.
Technology Utilization	Adopt AI-driven tools to monitor and optimize green HRM initiatives.
Employee Well-being	Incorporate wellness programs that emphasize environmental mindfulness.

#### 4.6. Contributions of Asia-Pacific Findings to Global GHRM

This study focuses on GHRM trends in the Asia-Pacific region, so it is essential to position these findings within the broader global research landscape. **Table 4** presents a comparative summary of key aspects of GHRM research in Asia and globally, highlighting the unique contributions of the Asia-Pacific region to advancing GHRM practices. This comparison underscores Asia's emerging leader in sustainability-oriented HR strategies while identifying areas for further global integration and cross-regional collaboration.

### 5. Future Research Direction

Future studies should enhance theoretical frameworks by examining the relationship between GHRM and organizational behaviors, such as green transformational leadership and employee involvement in green practices. Broadening the geographical focus to encompass non-Asian regions and conducting comparative research will yield a more comprehensive perspective on GHRM. Additionally, advancing methodologies by utilizing mixed-method strategies and integrating emerging technologies like AI can provide deeper insights and foster innovation within GHRM research.

While notable advancements have been made, the research revealed gaps and obstacles, such as a lack of cross-regional studies, longitudinal analyses, and a

**Table 4.** Comparative summary of GHRM trends in Asia and globally.

Aspect	Asia-Pacific Region	Global Context	Contributions of Asia-Pacific Findings to Global GHRM
Research Output	Significant growth in publications, particularly in China (leading), Pakistan, and Malaysia. Research is still emerging in Saudi Arabia and Türkiye.	Consistent growth in developed countries, particularly in Europe and North America. The USA and the UK are major contributors to GHRM-related studies.	Demonstrates the capability of emerging economies to drive sustainability research. Serves as a model for global integration of GHRM in developing regions.
Key Themes	Dominated by sustainability, green supply chain management, and employee green behavior. Environmental performance is a central focus.	Similar themes globally, but additional emphasis on Corporate Social Responsibility (CSR), Environmental, Social, and Governance (ESG) frameworks, and the circular economy in Western contexts.	Enriches the global discourse with Asia-specific themes that align with industrialization and rapid economic growth.
Methodological Focus	Bibliometric studies dominate; some reliance on surveys and conceptual frameworks. Limited experimental and longitudinal approaches.	Western studies employ diverse methodologies, including mixed-methods, longitudinal studies, and qualitative research (e.g., interviews, case studies).	Highlights the need for Asia to incorporate mixed-method designs to generate comprehensive insights applicable globally.
Theoretical Foundations	Heavy reliance on Stakeholder Theory, Resource-Based View (RBV), and Organizational Citizenship Behavior (OCB).	Institutional Theory and Contingency Theory are more prominent in Western contexts.	Demonstrates how Asia-specific regulatory and cultural contexts influence the operationalization of these theories.
Practical Implications	Regional collaboration is key, with a focus on manufacturing, energy, and service sectors. Strong emphasis on environmental compliance and green innovation.	Broader focus across diverse industries, including IT, healthcare, and retail. Heavy emphasis on sustainability in service industries in the West.	Asia's focus on industry-specific applications offers tailored insights for global implementation, especially in high-growth sectors.
Cultural Influences	Strong collectivist culture influences green leadership styles and employee engagement in sustainability. Top-down leadership models are prevalent.	Individualistic cultures dominate, emphasizing personal responsibility and bottom-up innovation in green initiatives.	Provides global researchers with a contrasting lens to study the role of culture in shaping GHRM practices.
Challenges Identified	Limited cross-regional collaborations and language barriers in disseminating research. Predominance of English-language studies excludes non-English contributions.	More global collaborations, with English as the dominant language for academic dissemination. Better integration of diverse perspectives.	Highlights opportunities for fostering inclusivity and cross-regional knowledge-sharing initiatives.
Emerging Trends	Increasing interest in digital tools and AI for sustainable HR practices. Gaps in employee well-being in green initiatives.	Broader experimentation with integrating digital transformation in HR. Employee well-being is more frequently studied in global contexts.	Asia's nascent exploration of digital GHRM practices can contribute to global advancements in this emerging trend.

limited concentration on particular industries. These shortcomings present opportunities for future research to explore the contextual differences in GHRM practices, integrate digital and green transformations, and investigate the long-term effects of these practices on both organizational and environmental outcomes.

### 5.1. Deepening Theoretical Foundations

Future studies should focus on developing theoretical frameworks that link GHRM practices with organizational outcomes such as innovation, employee engagement, and operational efficiency. While descriptive patterns of GHRM are now well documented, the field requires further theoretical articulation. Future research could synthesize GHRM with theories such as Institutional Theory, examining how national cultures and regulatory pressures influence green practices. Additionally, the role of Organizational Citizenship Behavior (OCB) in facilitating employee-driven environmental change deserves theoretical exploration. For example, exploring the interplay between green transformational leadership and GHRM could yield insights into enhancing eco-friendly organizational behavior.

### 5.2. Addressing Contextual Variability and Expanding Methodological Approaches

The majority of GHRM research has been conducted in the Asian context. Comparative studies across regions or industries are needed to understand how cultural, regulatory, and economic factors influence the adoption and effectiveness of GHRM practices.

Most studies rely on bibliometric or survey-based methodologies. Future research could adopt mixed-method approaches, combining quantitative and qualitative data to provide richer insights into GHRM practices and their impact.

### 5.3. Methodological Innovations

Incorporate mixed methods, longitudinal studies, and qualitative analyses to capture nuanced employee perspectives on GHRM policies. Utilize experimental designs to measure the direct impact of GHRM strategies on organizational performance and environmental outcomes. Future studies could investigate the long-term benefits of green policies, such as reduced carbon footprints and enhanced employee retention.

### 5.4. Integration with Digital Transformation

The role of digital tools and technologies in enabling GHRM is an emerging area that warrants further exploration. For instance, integrating AI and big data analytics into HRM processes could enhance the precision and effectiveness of green initiatives.

By incorporating these avenues, future studies can build on the current analysis to address gaps and drive innovation in GHRM research, contributing to global sustainability goals.



### 5.5. Key Research Questions

- How can GHRM practices be tailored to different organizational sizes and industries?
- What roles do employees' green attitudes and values play in the success of GHRM initiatives?
- How can GHRM contribute to achieving global sustainability goals, such as the UN's SDGs?
- What ethical considerations are in implementing GHRM policies, particularly in developing countries?

## 6. Conclusion

This study underscores the pressing environmental challenges in the Asian context, where the need for Green Human Resource Management (GHRM) as a catalyst for sustainable development is urgent and complex. Through bibliometric analysis, this research provides a detailed understanding of the evolving trends, influential contributions, and emerging themes in GHRM, highlighting its crucial role in aligning organizational practices with global sustainability imperatives.

The findings underscore the strategic integration of green HRM practices into broader organizational frameworks, demonstrating how they drive innovation, foster eco-conscious workplaces, and align with initiatives like the United Nations Sustainable Development Goals (SDGs). Key insights advance academic discourse and provide a practical roadmap for Asian HR leaders, offering tailored sustainability strategies to navigate cultural and regulatory nuances.

This work lays the groundwork for future research to explore interdisciplinary approaches, digital innovation in GHRM, and comparative studies across regions and industries. By addressing these gaps, GHRM can establish itself as a global standard for sustainable HR practices, thereby influencing employee well-being and organizational resilience.

This study lays the groundwork for building more sophisticated theoretical frameworks that link green HRM to strategic management, organizational behavior, and institutional theory, moving the field beyond trend identification toward theory building.

In conclusion, this study consolidates the current state of GHRM knowledge and inspires actionable pathways for practitioners and policymakers. It is a compelling call to action for academia, industry, and governments to collaborate on shaping a greener, more sustainable future through innovative HRM practices, underscoring the collective responsibility in this endeavor.

## 7. Limitations

This research provides important insights into Mapping the Landscape of Green Human Resource Management (GHRM): A Bibliometric Approach Study. It underscores the increasing importance of GHRM in promoting environmental sustainability and enhancing organizational competitiveness. Nonetheless, several

constraints that could impact the thoroughness and applicability of the results should be recognized.

First, the data utilized in this study were gathered solely from the Web of Science database. As a result, relevant literature found in other databases, like Scopus or Google Scholar, was not included. This narrow focus may lead to an incomplete representation of GHRM literature.

Furthermore, the study was done based on English-language publications. Consequently, studies released in other languages were excluded, which could overlook significant contributions from regions where other languages are spoken, thus diminishing the cultural and contextual variety of the results.

Additionally, this examination primarily centers on a bibliometric method, depending on quantitative measures to identify research trends, pivotal publications, and key themes within the GHRM domain. Although this strategy effectively delivers an overarching perspective, it may lack the depth necessary to fully examine the theoretical foundations and complex viewpoints of GHRM research.

Finally, the diversity within the GHRM domain, evident in its various applications and outcomes, creates challenges in deriving universally applicable insights. This complexity is further amplified by the evolving theoretical frameworks of GHRM, which can lead to inconsistencies in understanding its effects across different contexts.

Future investigations should incorporate data from various databases to overcome these limitations, and systematic qualitative reviews would be beneficial for a more comprehensive understanding of GHRM. Moreover, including studies published in non-English languages and employing mixed-method approaches could enhance the analysis and widen the range of insights from this area.

## Data Availability Statement

The data are contained within the article.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

- Amrutha, V. N., & Geetha, S. N. (2020). A Systematic Review on Green Human Resource Management: Implications for Social Sustainability. *Journal of Cleaner Production*, 247, Article ID: 119131. <https://doi.org/10.1016/j.jclepro.2019.119131>
- Anwar, N., & Abdullah, N. H. (2020). Green Human Resource Management for Organisational Sustainability: A Bibliometric Analysis. *International Journal of Innovation, Creativity and Change*, 13, 402-421.
- Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-Tool for Comprehensive Science Mapping Analysis. *Journal of Informetrics*, 11, 959-975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Atarah, B. A., Mustapha, A., Nyaaba, P., & Damoah, O. B. O. (2024). Sustainable Procurement Practices and Female Entrepreneurs: Insights from a Developing Country. *Busi-*

- ness Strategy & Development*, 7, e421. <https://doi.org/10.1002/bsd2.421>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17, 99-120. <https://doi.org/10.1177/014920639101700108>
- Bin Saeed, B., Afsar, B., Hafeez, S., Khan, I., Tahir, M., & Afridi, M. A. (2019). Promoting Employee's Proenvironmental Behavior through Green Human Resource Management Practices. *Corporate Social Responsibility and Environmental Management*, 26, 424-438. <https://doi.org/10.1002/csr.1694>
- Chaudhary, R. (2020). Green Human Resource Management and Employee Green Behavior: An Empirical Analysis. *Corporate Social Responsibility and Environmental Management*, 27, 630-641. <https://doi.org/10.1002/csr.1827>
- Choudhary, P., & Datta, A. (2024). Bibliometric Analysis and Systematic Review of Green Human Resource Management and Hospitality Employees' Green Creativity. *The TQM Journal*, 36, 546-571. <https://doi.org/10.1108/tqm-07-2022-0225>
- Dumont, J., Shen, J., & Deng, X. (2017). Effects of Green HRM Practices on Employee Workplace Green Behavior: The Role of Psychological Green Climate and Employee Green Values. *Human Resource Management*, 56, 613-627. <https://doi.org/10.1002/hrm.21792>
- Fachada, J., Rebelo, T., Lourenço, P., Dimas, I., & Martins, H. (2022). Green Human Resource Management: A Bibliometric Analysis. *Administrative Sciences*, 12, Article 95. <https://doi.org/10.3390/admsci12030095>
- Faheem, A., Nawaz, Z., Ahmed, M., Haddad, H., & Al-Ramahi, N. M. (2024). Past Trends and Future Directions in Green Human Resource Management and Green Innovation: A Bibliometric Analysis. *Sustainability*, 16, Article 133. <https://doi.org/10.3390/su16010133>
- Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.
- Hue, T. T., & Dinh-Hai, L. (2024). Scientific Mapping of Green Organizational Culture: Main Schools of Thought and Topical Trends. *Business Strategy & Development*, 7, e70031. <https://doi.org/10.1002/bsd2.70031>
- Hussain, N., Zakuan, N., Yaacob, T. Z., Che Hashim, H. I., & Hasan, M. Z. B. (2023). Employee Green Behavior at Workplace: A Review and Bibliometric Analysis. *International Journal of Academic Research in Business and Social Sciences*, 13, 1584-1594. <https://doi.org/10.6007/ijarbss/v13-i3/16847>
- Khan, M. H., & Muktar, S. N. (2020). A Bibliometric Analysis of Green Human Resource Management Based on Scopus Platform. *Cogent Business & Management*, 7, Article ID: 1831165. <https://doi.org/10.1080/23311975.2020.1831165>
- Kim, Y. J., Kim, W. G., Choi, H., & Phetvaroon, K. (2019). The Effect of Green Human Resource Management on Hotel Employees' Eco-Friendly Behavior and Environmental Performance. *International Journal of Hospitality Management*, 76, 83-93. <https://doi.org/10.1016/j.ijhm.2018.04.007>
- Kulkov, I. (2021). The Role of Artificial Intelligence in Business Transformation: A Case of Pharmaceutical Companies. *Technology in Society*, 66, Article ID: 101629. <https://doi.org/10.1016/j.techsoc.2021.101629>
- Li, X., Saat, M. M., Khatib, S. F. A., & Liu, Y. (2024). Sustainable Development and Firm Value: How ESG Performance Shapes Corporate Success—A Systematic Literature Review. *Business Strategy & Development*, 7, e70026. <https://doi.org/10.1002/bsd2.70026>
- Mahajan, P. S., Raut, R. D., Kumar, P. R., & Ghoshal, S. (2024). Towards the Integrated Supply Chain Practices through Industry 4.0: A Bibliometric and Systematic Review. *Business Strategy & Development*, 7, e70037. <https://doi.org/10.1002/bsd2.70037>

- Mehta, P. (2023). Bibliometric Investigation on Green Human Resource Management Research. *Journal of Humanities and Applied Social Sciences*, 6, 211-221. <https://doi.org/10.1108/jhass-05-2023-0062>
- Mousa, S. K., & Othman, M. (2020). The Impact of Green Human Resource Management Practices on Sustainable Performance in Healthcare Organisations: A Conceptual Framework. *Journal of Cleaner Production*, 243, Article ID: 118595. <https://doi.org/10.1016/j.jclepro.2019.118595>
- Novianti, K. R., & Rumijati, A. (2023). Indonesia Green Human Resource Management: A Bibliometric Analysis. In R. I. Robbie, A. Roziqin, S. M. Deniar, A. Praharjo, & K. Roz (Eds.), *Environmental Issues and Social Inclusion in a Sustainable Era* (pp. 37-42). Routledge. <https://doi.org/10.1201/9781003360483-6>
- Opatha, H. H. D. N. P. (2019). *Sustainable Human Resource Management: Expanding Horizons of HRM*. Department of Human Resource Management, University of Sri Jayewardenepura.
- Rawat, K., & Rawat, D. (2021). Green Human Resource Management: A Bibliometric Analysis Based on Dimensions Platform. *Vimarshodgam Journal of Interdisciplinary Studies (VIMJINS)*, 1, 36-47. <https://www.researchgate.net/publication/370210593>
- Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green Human Resource Management: A Review and Research Agenda. *International Journal of Management Reviews*, 15, 1-14. <https://doi.org/10.1111/j.1468-2370.2011.00328.x>
- Shah, P., Singh Dubey, R., Rai, S., Renwick, D. W. S., & Misra, S. (2024). Green Human Resource Management: A Comprehensive Investigation Using Bibliometric Analysis. *Corporate Social Responsibility and Environmental Management*, 31, 31-53. <https://doi.org/10.1002/csr.2589>
- Sharma, C., Sakhuja, S., & Nijjer, S. (2022). Recent Trends of Green Human Resource Management: Text Mining and Network Analysis. *Environmental Science and Pollution Research*, 29, 84916-84935. <https://doi.org/10.1007/s11356-022-21471-9>
- Singh, S. K., Giudice, M. D., Chierici, R., & Graziano, D. (2019). Green Innovation and Environmental Performance: The Role of Green Transformational Leadership and Green Human Resource Management. *Technological Forecasting and Social Change*, 150, Article ID: 119762. <https://doi.org/10.1016/j.techfore.2019.119762>
- Tang, G., Chen, Y., Jiang, Y., Paillé, P., & Jia, J. (2018). Green Human Resource Management Practices: Scale Development and Validity. *Asia Pacific Journal of Human Resources*, 56, 31-55. <https://doi.org/10.1111/1744-7941.12147>
- van Eck, N. J., & Waltman, L. (2017). Citation-Based Clustering of Publications Using Citnetexplorer and Vosviewer. *Scientometrics*, 111, 1053-1070. <https://doi.org/10.1007/s11192-017-2300-7>
- Zaid, A. A., Jaaron, A. A. M., & Talib Bon, A. (2018). The Impact of Green Human Resource Management and Green Supply Chain Management Practices on Sustainable Performance: An Empirical Study. *Journal of Cleaner Production*, 204, 965-979. <https://doi.org/10.1016/j.jclepro.2018.09.062>
- Zhao, W., & Huang, L. (2022). The Impact of Green Transformational Leadership, Green HRM, Green Innovation and Organizational Support on the Sustainable Business Performance: Evidence from China. *Economic Research-Ekonomska Istraživanja*, 35, 6121-6141. <https://doi.org/10.1080/1331677x.2022.2047086>