

GREEN HUMAN RESOURCE MANAGEMENT: A REVIEW OF TWO DECADES OF RESEARCH

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Abstract

Over the last decade, academicians and businesses alike have been drawn to the green workplace. As a result, new fields of study such as green human resource management (GHRM) began to merge. Greening the workplace entails greening typical company tasks such as human resource management, marketing, operations, and supply chain management. GHRM may play a strategic role in assisting firms in implementing and developing sustainable initiatives, as well as achieving corporate sustainability. This work contributes to a better understanding of GHRM scholarship and gives an up-to-date assessment of theoretical frameworks used in GHRM research.

The author uses the bibliometric analysis approach in this study to analyze and derive conclusions from 121 publications obtained from the SCOPUS database during a nearly two-decade period: 2000 to February 2023. The current work aims to comprehend GHRM scholarship using the Bibliometrix and the VOS viewer software.

The study provides some novel observations that may assist scholars, line managers, and top management in conceptualizing GHRM practices in their organizations, which are presently confined to a few human resource (HR) activities (hiring, training, and reward), regions and sectors. By identifying keywords, authors, journals, intellectual, conceptual, and social structure, this article contributes to the GHRM research.

The article focuses on corporate sustainability goals to assist readers to comprehend green practices in HR activities. It assists line managers and top management in making GHRM a significant basis for attaining sustainability objectives. Furthermore, these findings might serve as a guide for future research in the field of GHRM.

Keywords: Green Human Resource Management, Sustainable Organization, Green Work Culture, GHRM Theories

1. INTRODUCTION

With the increased awareness about environmental issues and the problems it causes, environmental protection and sustainability have become a matter of concern globally. It has received the attention of both academicians as well as industrial professionals. Given these inevitabilities, businesses all around the world are taking environmentally conscious decisions and going green. The objectives related to sustainability are being viewed as being equal if not more important than the economic objectives in contemporary business culture (Yusliza et al., 2019). The success of these efforts is unfeasible till employees are not on the same page as the organization with regards to their environmentally friendly conduct. The HR professionals seek to assure that there is an assimilation of environmental sustainability into the HR policies of the organization, as the employees play a vital role in ensuring the greening of any organization (B. B. Saeed et al., 2019). It is here that green human resource management (GHRM) comes into play. Relatively a novel concept, GHRM has become a crucial element in ensuring the greening of organizations. Opatha (2013) defines GHRM as “all the activities involved in the development, implementation, and ongoing maintenance of a system that aims at making employees of an organization green”. Elsewhere, Jabbour (2013) defines GHRM as “the systematic, planned alignment of typical HRM practices with the organization’s environmental goals”.

Research in the GHRM has been gradually increasing in the past two decades. Figure 1 depicts the growth in the research in GHRM from 2000 to 2023 (February) as ascertained from the number of articles on SCOPUS database with GHRM as the subject matter.

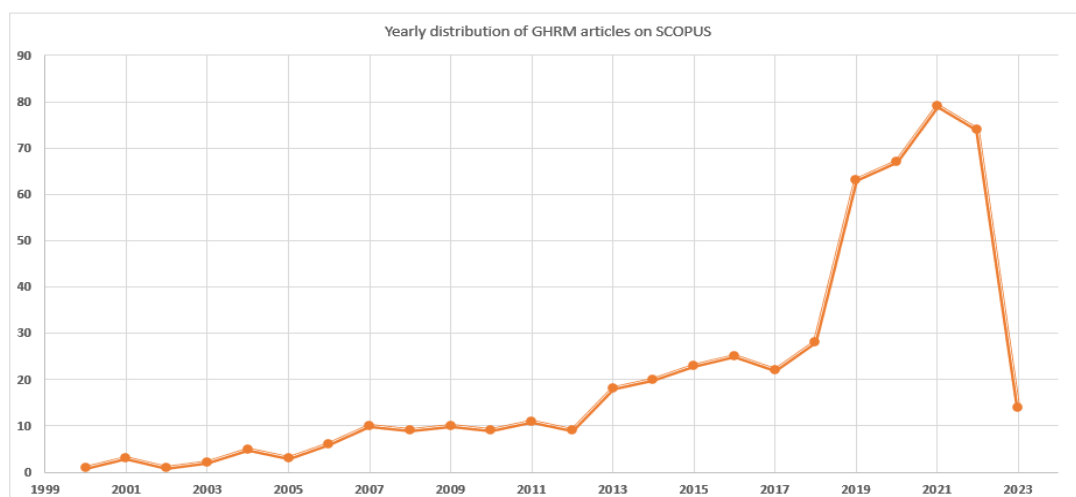


FIGURE 1 - THE NUMBER OF ARTICLES PUBLISHED ANNUALLY FROM 2000 TO 2023 AS ASCERTAINED FROM THE SCOPUS DATABASE.

In recent years, several reviews have been published that have contributed significantly to the growth of the field of GHRM. These include reviews by Paulet et al. (2021), Benevene and Buonomo (2020), Yong et al. (2020), and Khan and Muktar (2020). Despite their diverse perspectives, these reviews have provided invaluable insights into different aspects of GHRM. For instance, Paulet et al. (2021) conducted a meta-review to assess the impact of Covid-19 on the development of the field, while Khan and Muktar (2020) conducted a bibliometric analysis of 147 articles retrieved from the Scopus database between 2008 and 2020. Additionally, the systematic review of the literature by Benevene and Buonomo (2020) focused on empirical findings of GHRM activities.

The increasing importance of GHRM as a discipline is evident from the growing number of articles published on this topic in peer-reviewed academic journals. In recent years, several major HRM journals, including the Academy of Management, Journal of Cleaner Production, Sustainability, International Journal of Human Resource Management, International Journal of Manpower, and Corporate Social Responsibility and Environmental Management have published articles on GHRM and similar topics like Green Supply Chain Management and Green Corporate Social Responsibility. This trend indicates the growing recognition of GHRM as a critical field of research, with scholars and practitioners alike recognizing the significance of GHRM in addressing the environmental crisis and promoting sustainability.

To gain a comprehensive understanding of the state of GHRM, this study conducts a detailed analysis of 121 articles sourced from the SCOPUS database. The study employs systematic and bibliometric methods, using VOS and Biblioshiny software, to analyze the research evolution and thematic overview of GHRM. The analysis is aimed to identify the theoretical foundation for research on GHRM, including the various theoretical frameworks employed by the researchers.

This review delves into the theoretical frameworks that have been utilized in comprehending GHRM. The research looks at various theories that have been employed, including the Ability-Motivation-Opportunity theory, Stakeholder theory, Contingency theory, Dynamic capabilities theory, Human capability theory, Human Capital theory, Organizational Citizenship Behaviors Theory (OCB), Resource-based view theory (RBV), Supply-Values Fit theory (SVFT), Social Identity theory (SIT), Social Exchange Theory (SET), and Theory of Planned Behavior (TPB). Furthermore, this study examines the context and application of these theories in the analyzed papers, providing an in-depth insight into the conceptual frameworks used in GHRM research. The significance of these theories lies in the fact that they have been instrumental in providing a framework for understanding the relationship between HRM practices and environmental sustainability. The inclusion of these theories in GHRM research highlights the multidisciplinary nature of the field, emphasizing its linkages with other management disciplines and its relevance in solving complex environmental problems faced by organizations.

In this study, the use of visual aids such as similarity visualization will assist in conducting bibliometric analysis. The primary goals of the research are to identify different literature streams, create a topic map, examine the construct's temporal evolution, and recognize the theoretical frameworks utilized in GHRM literature.

The article is composed of seven sections. Section 3 presents some of the characteristics of the research in the field of GHRM while discussing their locales and contributions to the field, through analyzing keyword network and treep map of abstract. Various theoretical frameworks and the related research in GHRM presented in section 4. The article concludes with a discussion on the prospective directions in the GHRM, as identified in the literature, and the future of the field of GHRM.

2. METHODOLOGY

To start a bibliometric analysis, it is important to identify the databases that would be useful for the research. These data sources should be both reliable and appropriate to make informed decisions and complete the analysis. Reliable databases commonly used for bibliometric analysis include ISI, Google Scholar, WOS, and Scopus. Scopus is particularly popular, as it is one of the most prominent databases used by researchers worldwide.

This bibliometric analysis focuses exclusively on studies that explicitly address the topic of GHRM and excludes related topics such as leadership, strategic management, change management, innovation management, sustainable management, and knowledge management. We have also excluded studies that use the term 'green' as a buzzword without specifying a GHRM approach. Our goal is to provide a comprehensive analysis of the literature specifically related to GHRM.

Three alternative combinations were used to search for publications specifically about green human resource management. String combinations that were combined using logical operators in the advanced search option are as

- TITLE-ABS-KEY (("Green" OR "Sustainable" OR "Circular economy") AND ("Human") AND ("Resource") AND ("Management"))
- TITLE-ABS-KEY (("Green" OR "Sustainable" OR "Circular economy") AND ("HRM"))
- TITLE-ABS-KEY(("Green") AND ("HRM"))

Figure 2 indicates, along the PRISMA framework, the process of inclusion and exclusion of the studies from the collection of articles as returned using the above search strings.

3. RESULTS

The findings are provided in relation to the aforementioned objectives of this review.

3.1 Geographical Distribution of Research

The majority of GHRM articles are published in English, with very few in Chinese, Spanish, French, and German. For this study, only English language documents were selected, despite 37 publications in the SCOPUS database being in languages other than English. Notably, most publications originate from Asian countries. As can be discerned from the Figure 3, China, India, USA, and Malaysia have dominated the research output vis a vis GHRM. The focal points of this output have shown change with time as well.

GHRM gained currency in research works after the 1990s, with the first mention of "Green" in HRM occurring in Wehrmeyer's book in 1995 titled "Greening people: human resource and environmental management." Green HRM essentially consists of two major elements: environment-friendly HR practices and the preservation of knowledge capital. The locale of early research in GHRM was in the West (predominantly in the US). Over time, there has been a gradual shift in the geography of GHRM research, with an increasing amount of scholarly attention being devoted to the developing world. This trend is reflected in the findings of this review, which indicates that a significant portion of the research in GHRM has been conducted in rapidly emerging economies

such as China, India, and Pakistan. In the Chinese context earlier studies are exemplified by augmenting traditional HRM topics like supply chain management (Lin & Ho, 2008) and corporate social responsibility (Gu, Ryan, Bin, & Wei, 2013) with aspects of sustainability.

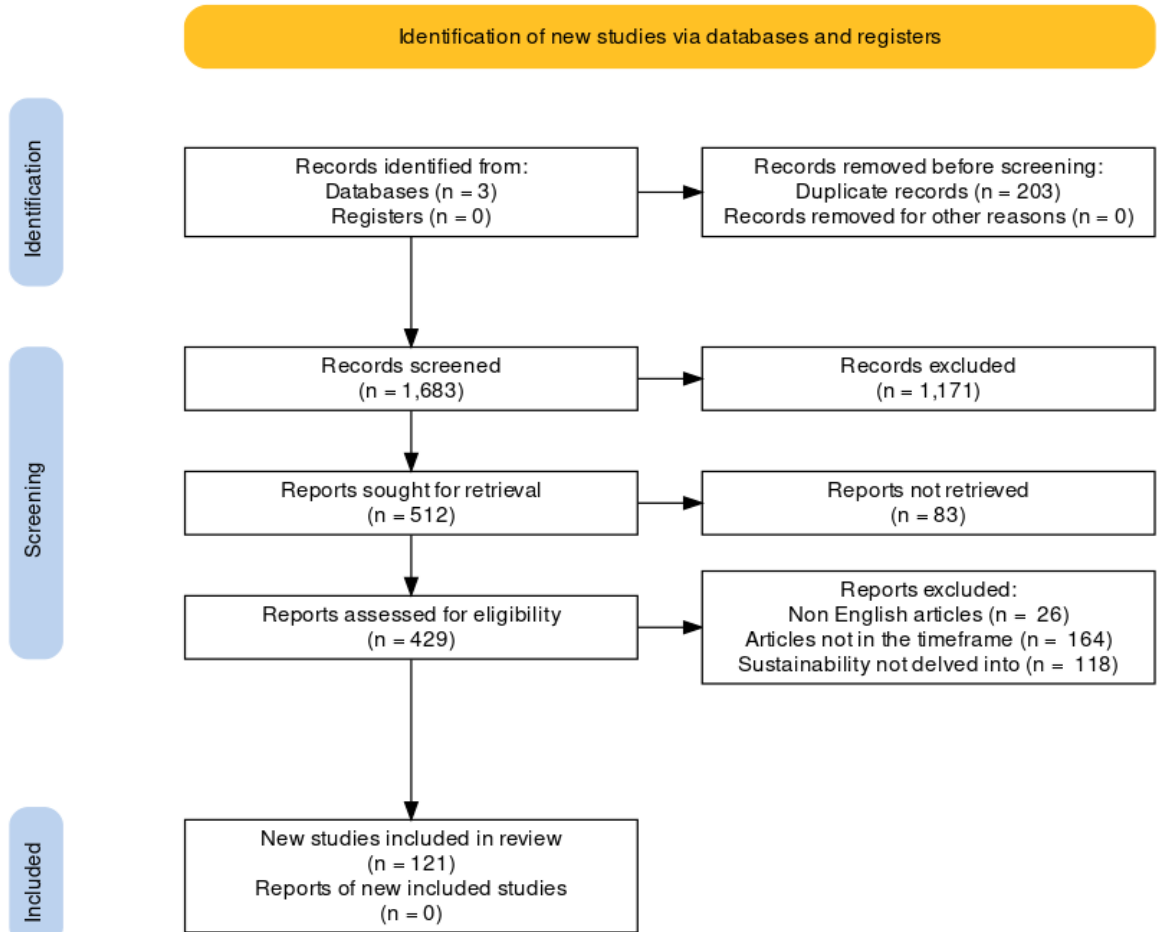


FIGURE 2 - THE FIGURE REPRESENTS HOW THE COLLECTED PAPERS WERE SELECTED FOR THIS ARTICLE. Using the above given search strings 1683 articles were identified from three sources. On further analysis and screening, the final collection of 121 articles was chosen.

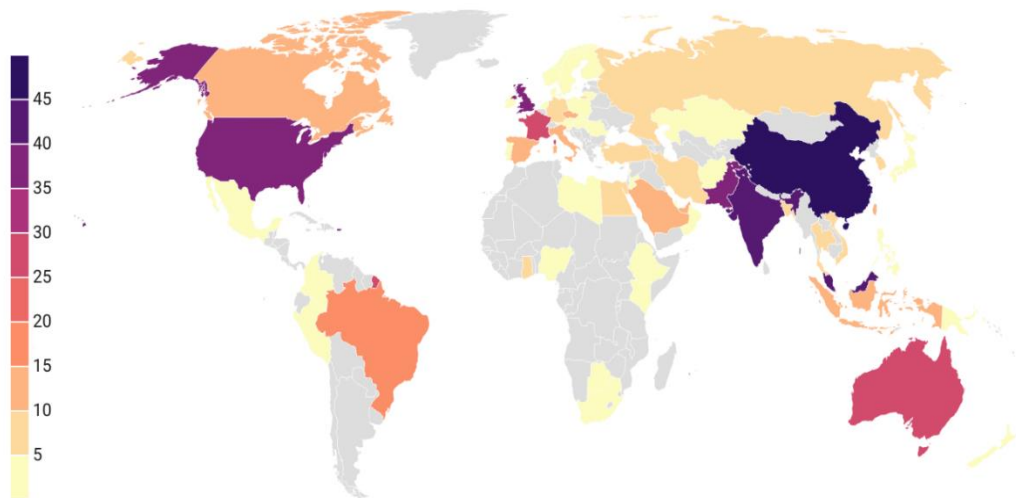


FIGURE 3 - GEOGRAPHICAL SPREAD OF THE COLLECTED RESEARCH

3.2 Significant Sources and Authors

According to the research findings, the most significant journals that have been used as the source to collect data include the International Journal of Manpower, Business Strategy and the Environment, and Corporate Social Responsibility and Environmental Management. These sources are highly relevant in the context of the research topic at hand. It is interesting to note that most of these journals fall under the category of Business and Management, followed by Social Sciences and Environmental Sustainability. This suggests that this research topic is highly interdisciplinary and requires an understanding of various fields of study. As depicted in Figure 4, most of the sources collected are related to Business and Management, accounting for approximately 67% of the total sources. The Social Sciences category comes in second, with about 22% of the sources falling under this category. Lastly, the Environmental Sustainability category accounts for around 10% of the total sources collected. This distribution of sources highlights the importance of considering multiple perspectives when researching topics related to GHRM. Drawing from various fields of study, such as psychology, sociology, management, etc., researchers can gain a comprehensive understanding of the complex issues at hand and make informed decisions that promote sustainable practices in business operations.

Most Relevant Sources

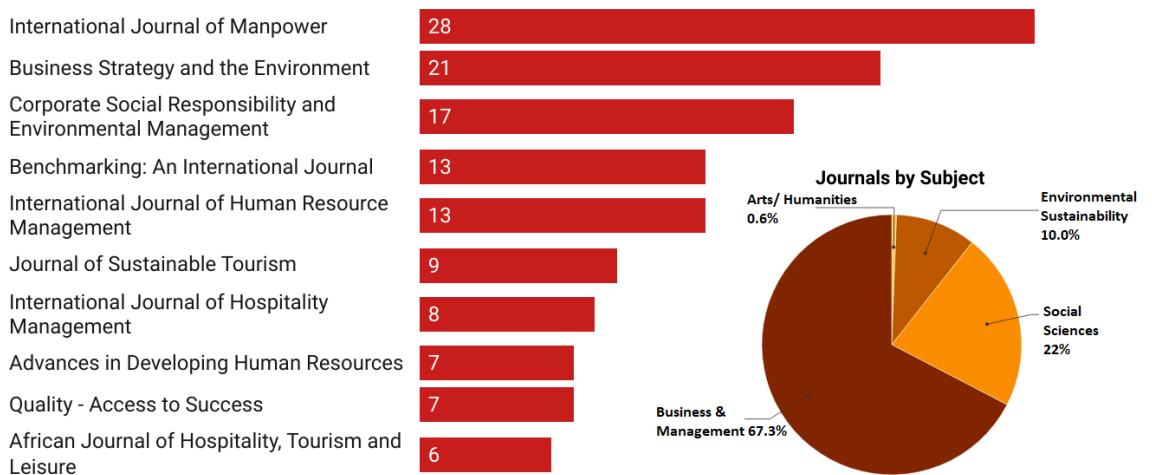


FIGURE 4 - SOURCE ANALYSIS OF THE COLLECTED RESEARCH

Jabbour CJC is the most relevant author with 13 publications and an H-index of 12. Most significant of these deal with GHRM studied in the context of tourism management (Pham et al., 2019), green organizational culture (Roscoe, Subramanian, Jabbour, & Chong, 2019), and hotel management (Pham, Thanh, Tučková, & Thuy, 2020). Other significant authors, as exemplified in Figure 5, include Pham NT, Chaudhary R, and Yusliza MY.

Significant Authors

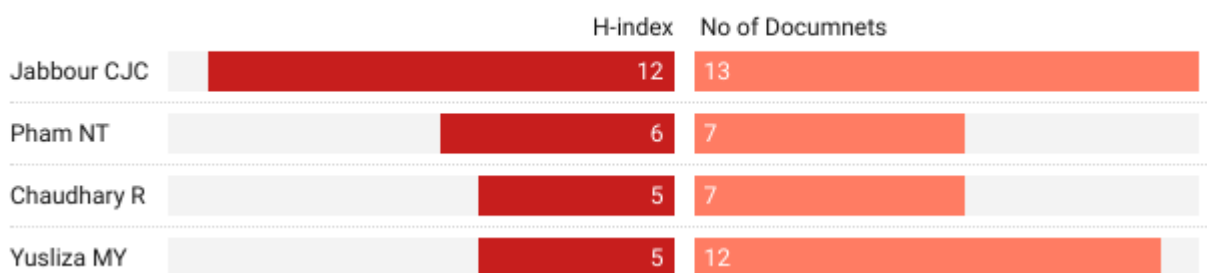


FIGURE 5 - SIGNIFICANT AUTHOR, THEIR RESPECTIVE H-INDICES, AND NUMBER OF DOCUMENTS.

3.3 Cluster analysis

The articles were further examined for the co-occurrence of the keywords. A keyword network, as shown in Figure 6, of the collected papers was generated using the VOS viewer.

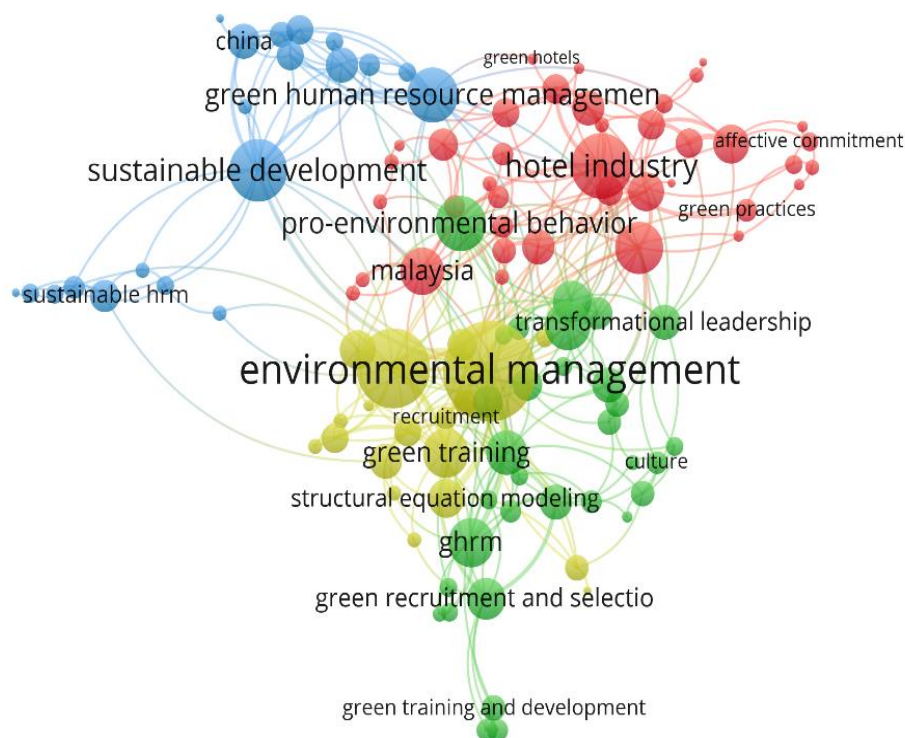


FIGURE 6 - KEYWORD CO-OCCURRENCE NETWORK (KCN) OF THE COLLECTED RESEARCH SHOWING FOUR MAJOR CLUSTERS. The clusters are coded such that Cluster 1 is colored red, Cluster 2 is blue, Cluster 3 is green, and Cluster 4 is yellow. The network is generated by analyzing the keywords of the authors while determining a keyword co-occurrence network (KCN) focuses on understanding the knowledge components and knowledge structure of a scientific/technical field by examining the links between keywords in the literature (Radhakrishnan, Erbis, Isaacs, & Kamarthi, 2017).

The keyword network may further be examined as four clusters which are discussed in the forthcoming analysis. For example, the term "Bangladesh" in the red cluster is related to the articles in the bibliographic reference coupling map's red cluster. The four colored clusters (blue, yellow, green, and red) reflect four unique research lines, as seen below.

The pre-eminence of various Green HRM functions, as reflected in the keyword network, can be seen in the extensive research that has been conducted on all major operational areas, from procurement to organizational culture. Procurement involves green job design and recruitment, while development covers green training, human capital, and related aspects. Compensation is managed through green performance management and pay/reward systems, and integration includes green discipline management and work-life balance. Maintenance is addressed through employee empowerment, health and safety management, and more. These dimensions all contribute to the overall effectiveness of GHRM, which seeks to create sustainable and environmentally friendly organizations.

Cluster 1

The keywords constituting the first cluster, colored red, have been categorized according to theme, context, and theories presented in Table 1 below. This cluster includes 41 articles. The phrases "green behavior," "green creativity," "human factors," "job satisfaction," and "affective commitment" are highlighted: the cluster emphasizes the application of environmental sustainability in human resource management in light of social exchange theory (SET). Section 4 has a full overview of SET. The term "Bangladesh" is highlighted because writers such as Islam et al. (2022) include Bangladeshi enterprises as a sample in their studies.

TABLE 1 - RESEARCH CONSTITUTING CLUSTER 1 OF THE KEYWORD NETWORK.

Context	Keyword	Research
Theme	Green behavior, Green creativity, Human factors, Job satisfaction, affective commitment	(Muisyo, Su, Hashmi, Ho, & Julius, 2022), (Kumar, Saha, & Anand, 2021)
Setting	Bangladesh, Green hotels, Hotel industry, Millennials	(M. A. Islam et al., 2022)
Theory	Social exchange theory	(Pham, Tučková, & Viet, 2019)

Cluster 2

The research related to Cluster 2 of the keyword network colored blue is indicated in Table 2. This cluster includes 38 articles. The phrases “Green economy”, “Higher education”, “responsible leadership”, “conscientiousness”, and “motivation” are highlighted. The terms “Asia” and “China” are highlighted because writers such as (M. Kim & Lee, 2022), (He, Morrison, & Zhang, 2021), and (Ma, Liu, Appolloni, & Liu, 2021) include China and other Eastern Asian enterprises as a sample in their studies.

TABLE 2 - RESEARCH CONSTITUTING CLUSTER 2 OF THE KEYWORD NETWORK.

Context	Keyword	Research
Theme	Green economy, Higher education, responsible leadership, conscientiousness, motivation	(Zhou, Mao, & Li, 2020), (Darvishmotevali & Altinay, 2022), (M. Kim & Lee, 2022), (He et al., 2021)
Setting	University, China, Asia	(Ma et al., 2021), (Soomro, Wang, Tunio, Aripkhanova, & Ansari, 2021), (Iqbal & Piwowar-Sulej, 2022).
Method	Systematic literature review	(Anlesinya & Susomrith, 2020)

Cluster 3

The research related to Cluster 3 of the keyword network colored green is indicated in Table 3. This cluster includes 23 articles. The phrases “Pro-environmental Behavior”, “Culture”, “Green intellectual capital”, “Gender”, and “Ethical leadership” are highlighted: the cluster emphasizes the application of environmental sustainability in human resource management considering Resource-based theory (RBT). Section 4 provides a more detailed overview of RBT and related research. The topic of “Ethical leadership” has been discussed in the context of the commitment of top leadership towards the greening of organizations (Haldorai, Kim, & Garcia, 2022). (Ahmed, Umrani, Yousaf, Siddiqui, & Pahi, 2021) discuss the theme of “gender” in the context of the hospitality industry.

TABLE 3 - RESEARCH CONSTITUTING CLUSTER 3 OF THE KEYWORD NETWORK

Context	Keyword	Research
Theme	Pro-environmental Behavior, Culture, Green intellectual capital, Gender, Ethical leadership	(Karatepe, Hsieh, & Aboramadan, 2022), (Ahmed et al., 2021), (Rizvi & Garg, 2021), (Haldorai et al., 2022), (Jerónimo, Henriques, de Lacerda, da Silva, & Vieira, 2020), (Ren, Tang, & Jackson, 2021).
Theory	Resource-based theory	(Bag & Gupta, 2020), (Haldorai et al., 2022), (Sathasivam, Abu Bakar, & Che Hashim, 2021).
Method	Structural equation modeling	(Kusi, Zhao, & Rasoanirina, 2021), (Emmanuel, Dato'Mansor, & Rashid, 2021), (Singh, Giudice, Chierici, & Graziano, 2020).

Cluster 4

The research related to Cluster 4 of the keyword network colored yellow is indicated in Table 4. This cluster includes 19 articles. The phrases “Recruitment”, “Corporate social responsibility”, “Green training”, and “Human capital” are highlighted. The terms “Pakistan” and “Malaysia” are highlighted because writers such as (Abbas, Sarwar, Rehman, Zámečník, & Shoab, 2022) and (B. B. Saeed et al., 2019) include Pakistani enterprises, and

(Jayabalan, Zafir, Kumar, Hayati, & Mai, 2020) include Malaysian companies. The theme of “Corporate social responsibility” has been discussed by (Cheema & Javed, 2017) in the context of Pakistan's textile industries whereas the theme of “Green training” has been discussed as environmental training by (Stefanelli, Teixeira, Caldeira De Oliveira, Antonio Ferreira, & Sehnem, 2020).

TABLE 4 - RESEARCH CONSTITUTING CLUSTER 4 OF THE KEYWORD NETWORK.

Context	Keyword	Research
Theme	Recruitment, Corporate social responsibility, Green training, Human capital	(Bauer, Erdogan, & Taylor, 2012), (Zaid, Jaaron, & Bon, 2018), (Chakraborty & Biswas, 2020), (Stefanelli et al., 2020), (Song, Yu, & Xu, 2021), (Cheema & Javed, 2017)
Setting	Pakistan, Malaysia	(Jayabalan et al., 2020), (Abbas et al., 2022), (B. B. Saeed et al., 2019).
Method	Sequential mediation	(Chaudhary, 2019c), (Wu et al., 2021).

3.4 Abstract analysis

Using the R-studio-based Bibliomatrix tool for mining the two-worded and three-worded themes from the abstracts of the collected research for this review. The tree-map indicating the mined themes with their frequencies is shown in Figure 7.

Barring the vague and generic terms, “environmental performance”, (EP), shows up as the most dominant theme in the analysis. Mansoor, Jahan, & Riaz (2021), researching the manufacturing firms in their article, drawing upon the intellectual capital-based view theory, while exploring the relationship between green intellectual capital (IC) and environmental performance (EP) with the mediating effect of GHRM, conclude that GHRM shows significant mediating effect between intellectual capital and environmental performance.

Working along similar lines, in a similar context, Sun, Askary, Meo, Zafar, & Hussain (2022) study the relationship between green transformational leadership and environmental performance (EP) through the mediation of GHRM. The study, in likeness to the aforementioned study, confirms the positive relationship between the variables. Other major studies, included in this collection, deal with the relationship between EP and GHRM in the context of organizational sustainability (Amjad et al., 2021), hospitality industry (Darvishmotevali & Altinay, 2022b) green supply chain management (A. Saeed, Rasheed, Waseem, & Tabash, 2021), organizational support (Bhatti, Saleem, Murtaza, & Haq, 2022), green innovation (M. S. Malik, Ali, Kausar, & Chaudhry, 2021), psychology and green behavior (Naz, Jamshed, Nisar, & Nasir, 2022), greening workforce (Umrani et al., 2020), sustainable development (Zhou et al., 2020), and green transformational leadership (Singh et al., 2020), among others.

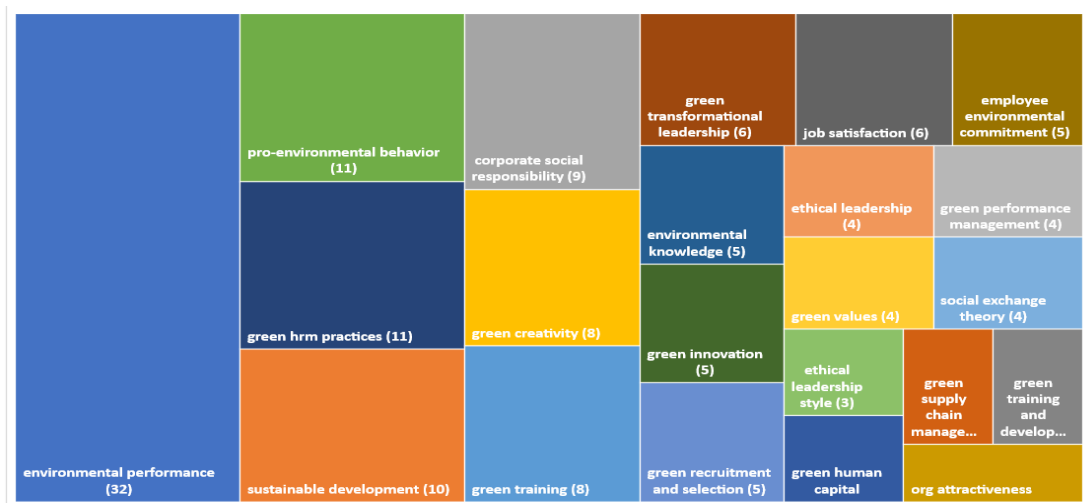


FIGURE 7 - TREEMAP OF THE THEMES AS MINED FROM THE ABSTRACTS OF THE COLLECTED RESEARCH

Deliberating on “employee environmental commitment”, Iftikhar, Zaman, Rehmani, Ghias, & Islam, (2021) explore the impact of GHRM in service recovery through the mediating role of Environmental Commitment. Elsewhere, Pham, Tučková, & Viet (2019) study the environmental commitment in the hoteling industry in Vietnam

An atypical theme that shows up in the treemap is organizational attractiveness in the present context. Chaudhary (2019a) discusses how GHRM plays a mediating role, for engineering graduates in higher education institutes in India, in the case of organizational attractiveness.

Other significant themes present in the abstracts include “pro-environmental behavior”, “sustainable development”, “green training”, “green creativity”, and “green innovation” which, apart from the research cited above is addressed in tandem with, perceived organization behavior (Karatepe et al., 2022), ethical leadership and discretionary behavior (M. A. Islam, Jantan, Yusoff, Chong, & Hossain, 2020), business sustainability (Uyun & others, 2021), motivational factors (Ojo, 2022), and green shared vision (M. S. Malik et al., 2021) among others.

4. THEORETICAL FRAMEWORKS IN GHRM METHODOLOGY

Different theories related to GHRM have been put forward. Upon evaluating the gathered research articles, the following set of theoretical frameworks were identified:

- Ability-Motivation-opportunity theory
- Stakeholder Theory
- Contingency Theory
- Dynamic capabilities Theory
- Human capability Theory
- Human Capital Theory
- Organizational Citizenship Behaviors Theory
- Resource-based view Theory (RBV)
- Supply-Values Fit Theory (SVFT)
- Social Identity Theory (SIT)
- Social Exchange Theory (SET)
- Theory of Planned Behavior (TPB)

The AMO (Ability-Motivation-Opportunities) Work performance thinkers (for example) have described the performance linked to individual group members fulfilling job requirements. Researchers are increasingly using the AMO paradigm, which states that a mix of an employee's Ability (A), Motivation (M), and Opportunities (O) can provide a forecast of individual or collective success. This paradigm has become one of the most widely used theoretical views for understanding HRM-performance links, particularly in HRM publications (Pauwe, 2009).

GHRM practices are commonly studied using the AMO theory, along with the social identity theory (Benevene & Buonomo, 2020). Green job design, recruitment, and training fall under the ability dimension, while motivation can be achieved through greening performance appraisal and offering green rewards. Providing green opportunities can involve employee involvement and decision-making (Benevene & Buonomo, 2020). AMO theory can also be used as a tool for organizations to encourage green behavior among employees, as supported by several studies (Singh et al., 2020; Renwick, Redman, & Maguire, 2013).

Stakeholder theory According to the stakeholder perspective of the organization, managers should build specialized processes to handle stakeholders' expectations. To grasp the notion of stakeholders, it is necessary to first understand the concept of a stake, which is defined as "an interest or share in an undertaking" (Flak & Rose, 2005). This concept might vary from a mere interest in a business to a formal claim of ownership (Freeman, 2010); (Carroll & Buchholtz, 2011). Stakeholder theory proposes three key principles for promoting sustainability in organizations: i) The motivation of employees towards sustainability engagement (Govindarajulu & Daily, 2004; Graves, Sarkis, & Zhu, 2013), ii) The deployment of a GHRM strategy to support

sustainable practices (Jackson, Schuler, & Jiang, 2014) and iii) The alignment of HRM systems with the sustainability objectives of organizations (Jabbour & Santos, 2008).

According to **contingency theory**, organizational practices vary depending on the nature and structure of the organization. The organization's structure is taken into account as a contingency element (Morton & Hu, 2008) such that "the success of a business is contingent on the decisions made by the organization's leaders" (Indeed, 2023).

Moreover, Hofer (1990) and Schoonhoven (1981) noted that a contingency research framework would focus on the dependent and independent variables' contingent relationship in a given context (Ginsberg & Venkatraman, 1985). With a contingency approach, the interaction between the organization and GHRM is operationalized to examine the effects of circumstance-contingent factors on GHRM. The positive interaction indicates that internal organizational parameters strengthen the effects of GHRM, while the negative interaction suggests otherwise (Ginsberg & Venkatraman, 1985; Andersson, Jackson, & Russell, 2013).

Dynamic capabilities theory Teece, Pisano, & Shuen (1997), focuses on integrating and reconfiguring competencies to address changes, which involves constant observation of environmental changes and the adoption of new technologies and practices. Actions aimed at integrating resources, obtaining additional resources, and resource reconfiguration are seen as essential to inculcate dynamic capabilities. Because of this, the dynamic capabilities viewpoint has been linked to how an organization from a resource-based perspective is analyzed within the context of GHRM (Sarkis, Gonzalez-Torre, & Adenso-Diaz, 2010).

Human capital theory According to this theory, employees' knowledge, skills, and abilities (KSA) may provide value and serve as a company's fundamental asset, giving it a sustained competitive advantage. (Subramaniam & Youndt, 2005). Unique to each firm, human capital creates valuable resources and capabilities that are difficult for other firms to duplicate (Lepak & Snell, 1999). Firms may seize opportunities to improve the environment and adopt proactive approaches when faced with environmental pressures (Chang & Chen, 2013). Building on the human capital concept, (Chen, 2008) developed the construct of green human capital, which encompasses employees' knowledge, skills, abilities, attitudes, experiences, commitments, and creativity for environmental concern and management. As such, researchers have explored the antecedents of green human capital, including corporate environmental ethics and social responsibility (Chen et al., 2012; Chang & Chen, 2013).

Organizational Citizenship Behaviors (OCBs) describe intentional and discretionary actions that an organization could take to better manage its environment but are not expressly recognized as such by the formal system or rewarded (Boiral, 2009). Organizational Citizenship Behaviors towards the Environment (OCBEs) refer to these behaviors specifically related to the environment (Boiral, 2009). By engaging in OCBEs, employees perform actions that benefit the environment and extend beyond their job requirements, ultimately contributing to the achievement of the organization's environmental performance goals (Luu, 2019). GHRM practices can encourage and enable employees to engage in OCBEs, leading to pro-environmental behaviors and concerns that align with the organization's environmental management initiatives (Y. Kim, Kim, Choi, & Phetvaroon, 2019). Within the ecosystem of OCBs is Organizational identity. Organizational identity refers to the core beliefs that define an organization and help its members understand its goals and purpose. In line with organizational identity theory, having a strong organizational identity can enhance members' awareness of the organization and help them keep pace with it. As organizations face increasing environmental pressures from regulations and consumer demand, they are paying more attention to environmental management issues and changing their behaviors to reduce pollution. To balance organizational development and environmental protection, (Chen, 2011) proposed the concept of Green Organizational Identity (GOI) that incorporates environmental protection into the framework of organizational identity.

Resource-based view theory (RBV) posits that an organization is a collection of valuable and inimitable resources, which are the main sources of sustainable competitive advantage and sustained higher performance. Human resources and intellectual capital are among the most important resources for organizations, and without them, no organization can obtain a competitive advantage. RBV is also the theoretical foundation of GHRM research, as it suggests that human resources are key to sustaining a company's competitive advantage (Barney, 1991). RBV has been applied to understand the importance of

human aspects when adopting new organizational practices (Wright, McMahan, & McWilliams, 1994), and has been used to explain the growth of GHRM practices within firms (Jabbour, Mauricio, & Jabbour, 2017).

TABLE 5: EMPIRICAL RESEARCH CONDUCTED IN GHRM WITH REGARDS TO DIFFERENT THEORIES.

<i>Theoretical Framework</i>	<i>Research</i>
<i>Ability motivation opportunity theory</i>	Pro-environmental behavior (Iftikar et al., 2022), GHRM practices and organizational practices in the dairy industry (Shoab et al., 2021), Green culture and leadership in oil and gas (Rizvi & Garg, 2021) Pro-environmental behavior in educational institutions (Akhtar, Khan, Atlas, & Irfan, 2022), Corporate social responsibility in the textile sector (Cheema & Javed, 2017).
<i>Contingency theory</i>	Big data and AI for environmental dynamism in manufacturing firms (Dubey et al., 2019), CSR and green intellectual capital (Mehmood & Hanaysha, 2022), Green human capital in the manufacturing sector (Bag & Gupta, 2020), Organizational sustainability in light of government regulations (Chatterjee & Chaudhuri, 2022).
<i>Dynamic capability theory</i>	Green dynamic capabilities in SMEs (Singh, Del Giudice, Chiappetta Jabbour, Latan, & Sohal, 2022), Environmental performance and uncertainty (Bresciani, Rehman, Alam, Ashfaq, & Usman, 2023)
<i>Human Capital theory</i>	Green innovation and environmental knowledge in hospitality (Munawar, Yousaf, Ahmed, & Rehman, 2022), Organizational commitment in the dairy industry (Shoab et al., 2021), and Green organizational culture in the agri-inputs industry (Tahir & Javed, 2022).
<i>Organizational citizenship behavior</i>	GHRM practices in the automobile sector (Chaudhary, 2019d), Green employee behavior in the automobile sector (Chaudhary, 2020), GHRM practices in the manufacturing sector (Mishra, 2017), Environmental performance in the hospitality industry (Umrani et al., 2020), Green Passion in FMCG firms (Mohammad, Bibi, Karim, & Durrani, 2020).
<i>Organizational identity theory</i>	Green organizational climate in textile industries (Zafar, Ho, Cheah, & Mohamed, 2022), Organizational sustainability in textile industries (Amjad et al., 2021).
<i>Planned behavior theory</i>	Supervisor pro-environmental behavior in the garment industry (Rubel, Kee, & Rimi, 2021), Green intention-behavior gap across various sectors (Khalid, Shahzad, Shafi, & Paille, 2022), Intentions for green practices in the IT industry (Akman & Mishra, 2014).
<i>Resource-based view</i>	Green intellectual capital (S. Y. Malik et al., 2020), Organizational sustainability across various NGOs (Fahmi, Ghazali, & Ismail, 2020), Green entrepreneurial behavior among students ((Hameed, Zaman, Waris, & Shafique, 2021), GHRM practices and employee engagement in garment industries (Aktar & Islam, 2019).
<i>Social Identity theory</i>	Social sustainability (Amrutha & Geetha, 2019), Green intellectual capital and social identity in the banking sector (Ali, Puah, Ali, Raza, & Ayob, 2022), Green infrastructure across various sectors (Parida, Ananthram, Chan, & Brown, 2021), Job pursuit intention among engineering students (R. Chaudhary, 2019, R. Chaudhary, 2018)
<i>Stakeholder Theory</i>	SMEs in Pakistan (S. Y. Malik et al., 2020), Environmental commitment in the FMCG sector (Mandip, 2012)
<i>Supplies values fit theory</i>	OCBE across educational institutions (Gilal, Ashraf, Gilal, Gilal, & Channa, 2019), Ethical leadership and green values in educational institutes (T. Islam, Khan, Ahmed, & Mahmood, 2021)

The **Supply-Values Fit theory** posits that employees evaluate the supplies offered by their organization based on their personal values. When supplies outweigh values, employees feel satisfied, and a good match is established between corporate and personal goals. The theory proposes that GHRM practices are one such supply that employees value, leading to the adoption of green behaviors. A fit scenario occurs when an organization's resources match or exceed an individual's values, resulting in positive attitudes and actions. The best match for GHRM practices is the employees who value the environment and display green behavior in their roles. However, those who highly value ecological concerns may be negatively affected if an organization fails to provide effective GHRM practices, which they perceive as a negative organizational element.

Social identity theory (SIT) According to this hypothesis, people want to identify with recognized social organizations to present themselves favorably. (Chaudhary, 2019a). Employees identify with an organization's values when it has a good reputation (Shen, Dumont, & Deng, 2018), and implementing GHRM activities signals environmental responsibility and attracts environmentally conscious applicants (Y. Kim et al., 2019). The pro-environmental image can link perceived GHRM to non-green employee outcomes, fostering a green culture within the organization (Amrutha & Geetha, 2019). The social identity perspective promotes eco-friendly behavior among employees (Y. Kim et al., 2019).

Social Exchange Theory (SET) Contrary to economic trade, social exchange theory relies more on voluntary behaviors than on formal contracts (Gould-Williams & Davies, 2005). According to this notion, employees look

for advantages from their interactions with employers and will be more engaged if they believe the benefits exceed the disadvantages (Zhang & Liu, 2021). Fairness and support from the organization encourage positive employee responses (Cropanzano & Mitchell, 2005; Khan et al., 2021). Similarly, awareness of the benefits of green behavior can drive employees to engage in proactive environmental activities (Darvishmotevali & Altinay, 2022a). Organizations can foster this by giving supervisors decision-making latitude and resources to engage in pro-environmental behavior (Paillé, Boiral, & Chen, 2013).

Lastly, to understand an employee's conduct and intentions, the **Theory of Planned Behavior (TPB)** is frequently employed in HRM (Yuriev, Dahmen, Paillé, Boiral, & Guillaumie, 2019). It comprises three elements that impact intentions, which in turn affect behavior: attitude, subjective norm, and perceived behavioral control (PBC). (Greaves, Zibarras, & Stride, 2013). TPB has been used to study the environmental behaviors of individuals both at home and at work (Yuriev, Dahmen, Paillé, Boiral, & Guillaumie, 2019). Several studies have found that an individual's intention to behave in an eco-friendly way strongly influences their actual behavior (Sawang & Kivits, 2014). The role of intention and its antecedents has been confirmed in studies on employees' environmentally friendly behavior (Blok et al., 2015; Sawang & Kivits, 2014).

Table 5 presents the research conducted within these frameworks.

5. DISCUSSIONS

GHRM finds application across all the major aspects of an organization, nonetheless, questions have been raised concerning its applicability and objectivity and whether it is possible to determine, in tangible terms, its effects on an organization. As is the case with executing any other change, implementing GHRM within the organization is an arduous task. It requires persistent commitment on the part of the management and employees at all levels. Reluctance, especially on the part of the employees, is but obvious. Not having a complete understanding of the execution of GHRM and having unmotivated and uncommunicative workers can make it challenging to implement GHRM fruitfully (Al-Romeedy, 2019). Deshwal (2015) pointed out that the challenges faced in implementing GHRM activities include recruiting environmentally inclined employees, difficulty in changing the behavior of the employees, and developing a pro-environmental culture. Successfully implementing GHRM activities is only possible when the needed planning and support of the management is present and the absence of it can lead to the failure of these activities. M. A. Islam, Hunt, Jantan, Hashim, & Chong (2020) find that insufficiency of information and guidance, lack of support from management, and practicing it being costly, as the main challenges of implementing GHRM. Another study conducted by Fayyazi, Shahbazmoradi, Afshar, & Shahbazmoradi (2015) found that the main barriers to implementing GHRM practices include the lack of a proper plan to implement GHRM practices and the presence of vague green values in the organization. Bombiak (2020) found that the difficulties in implementing GHRM practices were because of the absence of incentives to promote pro-environmental behavior and the lack of competency on the part of the management. The author also found that financial constraints can cause the failure of these activities. There is uncertainty regarding the financial benefits obtained by implementing green practices, as the financial burden of putting them into practice is exorbitant (Ren, Tang, & E Jackson 2018; Likhitkar & Verma 2017; Deshwal 2015). In this regard, a study conducted by (Jafri, 2012) concluded that the most common hindrance in implementing the GHRM practices is the cost of implementing them and subsequently the cost of maintaining them. Similar results were found in the study conducted by Kodua et al. (2022).

Another problem in establishing green practices in organizations is a dearth of green courses at universities throughout the world (Brockett, 2007). In response to this issue, the British Union emphasized adding sustainable development in several modern apprenticeships, particularly Amicus and The GMB (Trade Union Sustainable Development Advisory Committee, 2005). The expense of sustaining green practices or programs, on the other hand, has been cited as a critical issue in implementing GHRM practices in organizations, as has a lack of support from employees and senior management (Ren et al., 2018).

Despite the difficulties, the implementation of GHRM activities to have fruitful results is very much possible. Ramasamy (2017) suggested that HRM plays a crucial role in the greening of the organization. A supportive environment and top management's involvement is prerequisite for encouraging green behavior (Sakwa, 2018; Roscoe et al., 2019). Similarly, Jia, Liu, Chin, and Hu (2018) have pointed out the importance of

transformational leadership in the greening process. Authors have also proposed that green recruitment and selection, green training, green pay and rewards, and green involvement help in encouraging pro-environmental behavior (Napathorn, C. 2021; Tang, G., Chen, Y., Jiang, Y., Paille, P., & Jia, J. 2018). Similar suggestions have been put forth by Kola-Olusanya, (2013) and Teixeira, Jabbour, and Jabbour (2012) pointing out the importance of green training and development. Islam, M. A., Hunt, A., Jantan, A. H., Hashim, H., & Chong, C. W. (2019), also advocates employment of training programs and monetary incentives for successful implementation GHRM activities. Ahmad, S. (2015) points out the importance of providing technical and management skills to the employees for implementing green management system in the organizations. Additionally, Jamal, T., Zahid, M., Martins, J. M., Mata, M. N., Rahman, H. U., & Mata, P. N. (2021), suggest creating green awareness among employees along with constructing green employer branding for attracting environmentally conscious candidates is vital for greening the organization.

6. CONCLUSION

The relevance of GHRM nowadays as a developing area has been shown in this study through the bibliometric study of the literature published between 2000 and 2023, especially from the second half of the decade. The goal of GHRM is to actively contribute to the development of environmentally friendly social routes and to address environmental and ecological challenges from an organizational perspective. One of the most significant problems, unsustainable business practices as reflected in the organizations, that humanity is now facing is covered by this HRM specialty.

The following are some ways that this literature review adds to the body of knowledge. First, the data for this review was gathered with objectivity. Reputable publications from which the data were gathered provided a standard for the quality of the data examined. Second, the categories used to categorize the literature are different from those used in earlier studies, giving readers a fresh perspective on how to perceive and examine the material. Third, a comprehensive description of GHRM theoretical frameworks is provided by the study.

Following clear criteria and methodical methods, the research publications that were published between 2000 and 2023 were carefully examined. The pertinent data from the literature on green human resource management was emphasized, highlighting its conception, application, causes, and results in both organizational and individual contexts.

7. LIMITATIONS

Despite the contributions made by this study, it is vital to draw attention to several shortcomings and efforts made to address them. The information we extrapolated could be biased since we were only able to obtain a small portion of the literature on GHRM by using one database, the SCOPUS. The study of Khan and Muktar (2020), which employed the WOS database, produced findings that are converging with ours, a finding that confirms the trustworthiness of the results obtained. Second, because this study only examined GHRM-related literature written in English, non-English-language publications were not sought, as such articles are not often referenced, which problem might lead to inconsistent findings. (Farrukh et al., 2021). Third, we suggest conducting additional studies by merging data from other databases because data for the present study was acquired from only Scopus and the limitations of this database may have influenced our findings. We strongly advise conducting a systematic qualitative literature review of the field to gain a thorough understanding of it because the study is a bibliometric analysis (quantitative analysis) of the GHRM field and the suggested future directions are based on the quantitative analysis.

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