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Green Human Resource Management – Unveiling the Emerging Themes and Scopes for Further Studies

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ABSTRACT

Green human resource management has recently caught the attention of researchers due to global environmental concerns thus sustainable development. Accordingly, academic researchers have been enormously focusing on this particular domain. As a result, it is deemed acknowledged research trends and themes are rising in this domain. Therefore, it is indeed crucial to explore the research trends in this particular topic to allow future researchers to find scopes for further study. Consequently, this study aims to explore the research publication trend, themes, and scopes for further study. To achieve this objective, both Scopus and the Web of Science databases were used to gauge the research publications relevant to green human resource management. A total refined of 396 documents were taken to perform bibliometric analysis. The findings showed a gradual growth in the publication in recent years at a significant pace. Furthermore, mainly three themes were observed namely, green human resource management linked to environmental management and green behavior, sustainability and performance, and green innovation and green intellectual capital. These findings enable future

researchers to learn the existing themes that have already been emphasized which creates new opportunities for future studies. Policymakers may find these findings crucial to observe the current role of human resource management from different sectors which allow them to support further studies for robust output.

Keywords: Green Human Resource Management, Green HRM Practices, GHRM Practices, GHRM.

INTRODUCTION

In the current period, severe changes in the environment, enhancement in environmental effluence, harm to the natural setting, and nuisance of laws linked to environmental firms have the enormous force to make exertions for the lessening of negative effects on the environment (Ahmed et al., 2020). As a result, environmental concern has become a global concern that pushes all sectors, organizations, and departments to take necessary initiatives and adopt green practices to reduce environmental damage. As a result, business organizations have begun to grip pro-environmental policies to persist in being environmentally friendly and competitive (Jabbour & de Sousa Jabbour, 2016). In line with this, the human resource management department (HRM) in organizations has started to play a crucial role in achieving environmental sustainability (Chaudhary, 2019), by adopting green management (Gim et al., 2022). Green HRM (GHRM) thus refers to the green characteristics of management (Renwick et al., 2016), which is an effective tool to efficiently improve green creativity (Hooi et al., 2022; Renwick et al., 2013). The emerging concept of GHRM enables to reduce the pessimistic environmental outcomes (Shah & Soomro, 2023). Besides, the GHRM practices promote green attitudes and behaviors such as energy conservation, adopting a paperless working sphere, and recycling intention within the organizations (Mishra et al., 2014).

Nevertheless, academic researchers have attempted a significant rising concern by articulating vast research on the GHRM domain (Mousa & Othman, 2020; Shah & Soomro, 2023; Yusliza et al., 2021). Therefore, it is crucial to explore the scholarly documents relevant to GHRM practices to gauge the performance analysis, collaboration, and pertaining themes to spot the gaps and opportunities for further study. In line with it, this study aims to explore the research trends, collaboration network, trending themes, and scopes for further study using bibliometric analysis. Bibliometric analysis is a scientific procedure to conduct a systematic and consistent literature review formed in the context of quantitative and statistical measurements of scholarly documents (Donthu et al., 2021). Unlike other review of literature methods, bibliometric analysis is able to provide a more objective, comprehensive, and reliable analysis (Farrukh et al., 2022).

Nonetheless, the adoption of bibliometric analysis is not scarce in the GHRM studies. However, they have denoted some loopholes in their methodological

adoption. For instance, Farrukh et al. (2022) employed bibliometric analysis on GHRM practices by considering 264 documents retrieved from the Scopus database. Similarly, Choudhary and Datta (2023), and Akhtar et al. (2023) have considered Scopus in their bibliometric analysis of GHRM studies. On the other hand, several studies only selected the Web of Science database for bibliometric analysis on GHRM studies (Bahuguna et al., 2023; Fachada et al., 2022). These studies indeed demonstrated some gaps such as the selection of only a single database, single technique (tool), and selection of keywords to conduct a comprehensive bibliometric analysis. With the emerging trend in GHRM research and gaps in bibliometric analyses, the present bibliometric study sheds light on the growth of the published documents in Scopus and the Web of Science databases particularly relevant to GHRM by posing a few questions, such as, how the GHRM publishing landscape look? What are the existing themes that repeatedly and newly added in the scientific investigation? What are the opportunities for future GHRM scholars? The findings of this study will shed light on the literature of GHRM studies. Further, policymakers may find the current situation of GHRM scientific investigation thus assist them to provide funding in the continuum of further studies to fill the gaps. Finally, future scholars may conduct further studies on the identified research gaps.

METHODOLOGY

Bibliometric Analysis

Bibliometric analysis has increasingly caught the attention of academic researchers due to its concrete features that enable researchers to attain review objectives (Alam et al., 2021; Islam et al., 2022). Business and management researchers are using this technique to evaluate and analyze publications, authors, journals, institutions, and countries (Wu et al., 2021). It is indeed a comparative quantitative assessment technique that applies bibliographic data from scholarly published documents (Farrukh et al., 2022). It includes several analyses such as the number of publications, citation impacts, networking maps, and key themes in the bibliometric aspects (Alam et al., 2021; Ramli et al., 2022). This study in line with its objective mainly performed performance analysis (publication trend and citation impact), and science mapping (co-authorship network, and co-occurrence of keywords).

Bibliometric Tool

Several tools are used by past studies to conduct bibliometric analysis in business and management researchers. Bibliometric (R-package), VOSviewer, Leximancer, Gephi, and Biblioshiny are commonly used in bibliometric analysis (Alam et al., 2021). As bibliometric analysis is scientific (Alam et al., 2021) and sophisticated (Markoulli et al., 2017) methodology to broadly understand any area of study, this study applied a rigorous evaluation of GHRM scholarly documents using

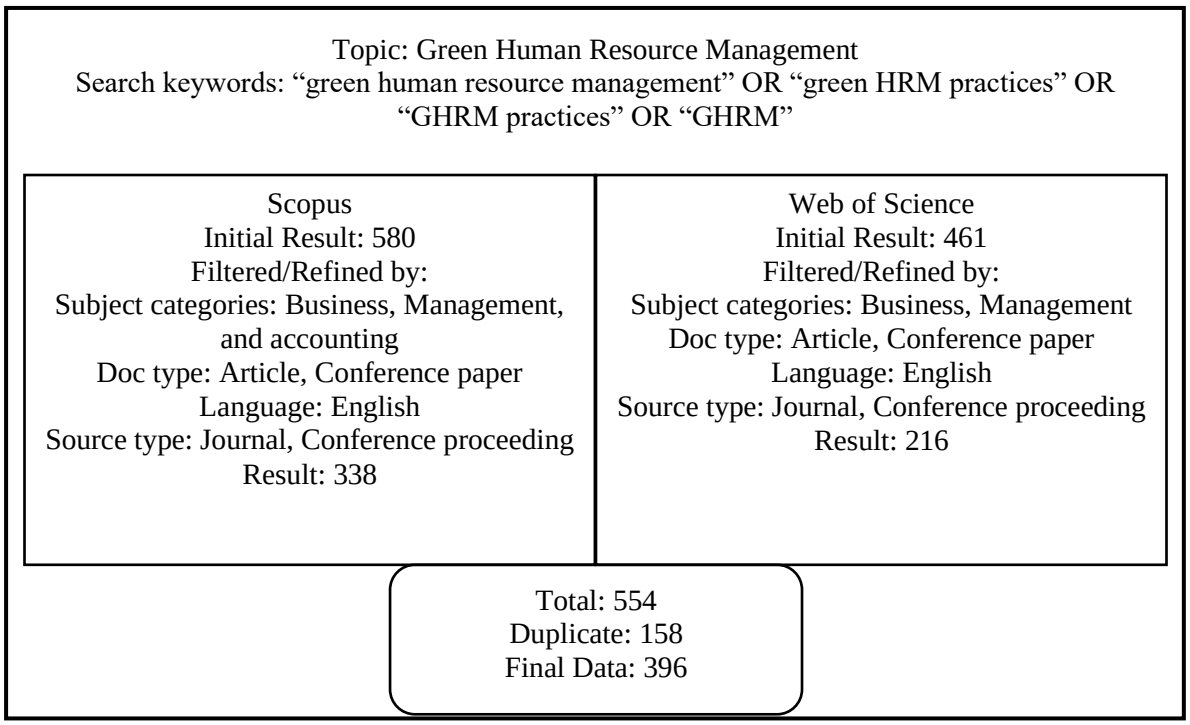
biblioshiny (Aria & Cuccurullo, 2017) and VOSviewer (van Eck & Waltman, 2010).

Data Extraction

The selection of keywords for bibliometric analysis is one of the crucial aspects of robust analyses (Islam et al., 2022; Khan et al., 2024; Ramli et al., 2022). Based on past bibliometric studies on GHRM, keywords are selected to extract data from online databases. The keywords used to retrieve scholarly documents from databases are "green human resource management" OR "green HRM practices" OR "GHRM practices" OR "GHRM". Henceforth, this study ensures a comprehensive coverage of the pertinent scholarly documents on green human resource management by using both popular databases namely, the 'Web of Science' and 'Scopus' (Aria & Cuccurullo, 2017). Both databases are primary and most popular among academic scholars and also provide a large number of documents (Aria & Cuccurullo, 2017).

Nevertheless, these databases provide the most comprehensive and gigantic number of quality scholarly documents (Pranckutė, 2021). The extract process of data collection (dated: 14/05/2023) for this study is presented in Figure 1.

Figure 1: Data Extraction Process



Results

Performance Analysis

Descriptive Analysis

Table 1 presents the descriptive results of the documents understudy. A total of 396 documents are taken for bibliometric analysis as mentioned earlier whereas 158 sources are used to publish these articles within 15 years and five months. A total of 979 authors including 27 sole authors have written these articles. Hence, a total number of 369 documents were written by multi authors with an average of 3.53 authors per document. However, a significant average of citations per document (41.31) is observed in the results which demonstrates the momentous attention of academic scholars in the domain of green human resource management. Further, cross-border cooperation among the scholars to produce green human resource management scholarly documents is represented by 29% which enlightens the global cooperation of authors to scientifically demonstrate the importance of the GHRM research domain.

Table 1: Descriptive Statistics

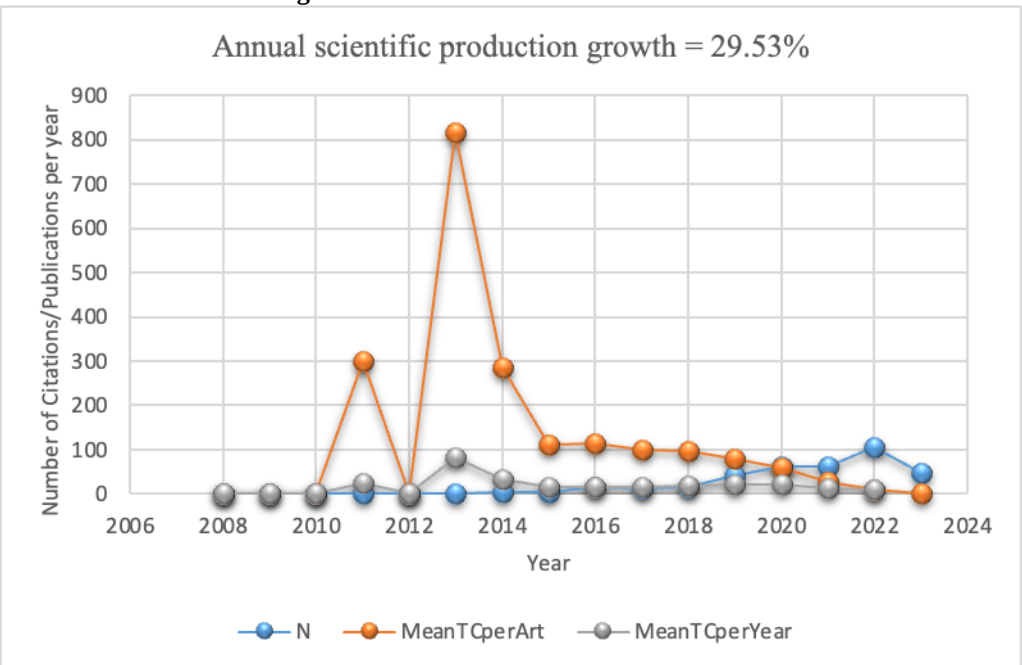
Variable	Result
Articles	396
Sources	158
Period	16* years
Article/age	2.53
Citations/article	41.31
References	20758
Authors	979
Single authored articles	27
Multi-authored articles	369
Co-Authors/article	3.53
International co-authorship	29.04%

Scientific Production

Figure 2 presents the scientific production and citations of scholarly documents relevant to green human resource management in different periods. Citation

performance is also associated with the growing number of scientific productions of scholarly documents to demonstrate performance analysis. According to the graph, it exhibits the first publication related to GHRM incurred in 2008 and the second publication reported after 2 years gap in 2011. However, the growth in the publication is observed from 2016 though at a slow pace, however, starting from 2019 till to the present, a significant upward trend in GHRM studies is acknowledged. The highest number of publications with a total of 104 documents are observed in the year 2022 and 47 documents within five months in the year 2023. Meanwhile, the highest number of citations received per document (MeanTCperArt) is observed in the year 2013 but deteriorated in the following years. Although it marginally picked up in 2016 however it is still in the downward line. Nevertheless, the average total citation per year (MeanTCperYear) has moderately upheld the marginal upward line in the study period. This trend parallels the growth of scientific production highlighting the continuous attention to green human resource management across borders. From this trend of scientific publications, it can be articulated that the attention from scholars relevant to green human resource management is substantial that leading to a crucial research domain among academics. Thus, it is likely to continue the growth of production in this domain into the future periods.

Figure 2: Annual Scientific Production



Citation Analysis

Global Cited

Global cited documents are measured based on the citations received within the database, either the Web of Science or Scopus (since both databases are merged in this study). Table 2 presents the top ten global cited documents relevant to green human resource management. Among ten top cited documents, four documents applied literature review while six other documents employed empirical studies related to GHRM practices. According to the bibliometric result, the top-most global cited document was written by (Renwick et al., 2013), who reviewed green human resource management literature. Their findings demonstrated that organizations are not employing the full array of Green Human Recourse Management practices, which may limit their effectiveness in improving Environmental Management. The sixth top-cited document is a conceptual paper that proposed a framework to integrate GHRM and GSCM to enhance the organizations' sustainable performance (Jabbour & de Sousa Jabbour, 2016). The eighth top-cited document written by Jackson et al. (2011) uncovered some scopes for further studies linked to HRM activities (recruitment, performance measurement, training, development, learning, compensation and rewards, and greening the organizational culture) to green management initiatives. The seventh top document authored by Tang et al. (2018) developed the measurement scale for green human resource management practices.

Meanwhile, the second top-most global cited document empirically examined and reported the influence of green transformational leadership on green human resource management practices, thus green innovation predicts environmental performance, also green innovation mediates the linkage between GHRM practices and environmental performance (Singh et al., 2020). In a similar context, Paillé et al. (2014) unveiled the significant effect of organizational citizenship behavior that fully mediates the association between strategic HRM and environmental performance, while internal environmental concerns interact with the relationship. Henceforth, GHRM practices have a direct impact on sustainable performance while green supply chain management practices mediate the relationship between GHRM practices and environmental dimension (Zaid et al., 2018). Consecutively, Kim et al. (2019) revealed that GHRM enhances employees' organizational commitment, the hotel's environmental performance as well as employees' eco-friendly behavior. In line, Pham et al. (2019) posited the effect of GHRM on organizational citizenship behavior while GHRM (training, performance management, and employee involvement) practices increase employees' green behavior. Similarly, Dumont et al. (2017) pointed out the influence of GHRM on employee in-role and workplace extra-role green behavior although it occurs in different psychological and social processes. These findings imply that the social and psychological state of individuals predicts green behavior as well as green

attitude. Besides, green behaviour of employee, organizational commitment, both internal and external environmental concern are the key drivers of green human resource management practices.

Table 2: Top Ten Global Cited Documents

No.	Title	Author(s)	Source	PY	TC	TC/Y
1	Green Human Resource Management: A Review and Research Agenda	Renwick, Redman, & Maguire	International Journal of Management Reviews	2013	817	74.27
2	Green innovation and environmental performance: The role of green transformational leadership and green human resource management	Singh, Giudice, Chierici, Graziano, & Domenico	Technological Forecasting and Social Change	2020	1017	254.25
3	The Impact of Human Resource Management on Environmental Performance: An Employee-Level Study	Paillé, Chen, Boiral, & Jin	Journal of Business Ethics	2014	448	82.6
4	The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance	Kim, Kim, Choi, & Phetvaroon	International Journal of Hospitality Management	2019	407	81.40
5	Effects of Green HRM Practices on Employee Workplace Green Behavior: The Role of Psychological Green Climate and Employee Green Values	Dumont, Shen, & Deng	Human Resource Management	2017	400	57.14
6	Green Human Resource Management and Green Supply Chain Management: linking two emerging agendas	Jabbour, & de Sousa Jabbour	Journal of Cleaner Production	2016	381	47.63
7	Green human resource management practices: scale development and validity	Tang, Chen, Jiang, Paillé, & Jia	Asia Pacific Journal of Human Resources	2018	302	50.33

8	State-of-the-Art and Future Directions for Green Human Resource Management: Introduction to the Special Issue	Jackson, Renwick, Jabbour, & Muller-Camen	German Journal of Human Resource Management	2011	299	23.00
9	The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study	Zaid, Jaaron, & Talib Bon	Journal of Cleaner Production	2018	293	48.83
10	Greening the hospitality industry: How do green human resource management practices influence organizational citizenship behavior in hotels? A mixed-methods study	Pham, Tučková, & Chiappetta Jabbour	Tourism Management	2019	275	55.00

Local Cited

Local cited documents present the more relevant past research insights on the examined area of bibliometric study because local cited documents are measured based on their citations received within the understudy research documents. Table 3 displays the top ten local cited documents, whereas two documents also received significant global citations. For instance, the top-most local cited document, which was authored by Jabbour and de Sousa Jabbour (2016), was also positioned in the top ten global cited documents due to its significant contributions to academic researchers through making suggestions for future studies. Besides, an empirical study investigated the effect of green supply chain management and green human resource management on sustainable performance (Zaid et al., 2018).

However, the second-top cited document authored by Masri and Jaaron (2017) divulged six key green human resource management practices in manufacturing organizations, including green recruitment and selection, training and development, performance management and appraisal, reward and compensation, employee empowerment and participation, and organizational culture from qualitative analysis. These factors posited a significant and positive effect quantitatively on the environmental performance of three manufacturing sectors: food, chemical, and pharmaceutical. Successively, Pinzone et al. (2016) empirically examined GHRM practices and posited an encouraging role of employees' collective engagement behaviors in environmental management. Further, employees' willingness to support partly mediates the linkage. Henceforward, Mousa and Othman (2020) divulged GHRM practices, namely, green hiring, green training and involvement, and green performance management and compensation, which significantly influenced sustainable performance in healthcare organizations. Thus, green human

capital and relational capital positively influence green human resource management in manufacturing (Yong et al., 2019).

Subsequently, Nejati et al. (2017) uncovered a significant positive effect of GHRM on GSCM; thus, green development and training, employee empowerment, and pay and reward exposed the conducive positive impact on GSCM while resistance to change moderated the relationship between GSCM and GHRM. Consequently, Zaid et al. (2018) showed that GHRM practices directly impact sustainable performance while green supply chain management practices mediate the relationship between GHRM practices and the environmental dimension. The tenth top-most cited document by Teixeira et al. (2016) established the positive impact of green training in adopting green supply chain practices.

Idiosyncratically, Gholami et al. (2016) employed a multi-methods technique to identify and examine the key practices of GHRM in the sports center. Based on their findings, performance management, culture and supportive climate, player involvement and empowerment, pay and reward systems, training and development, attracting and selecting, and the union's role in environmental management strongly link the system's constitution. In the university context, GHRM practices (green competence building, green motivation enhancing, and green employee involvement) posited significant positive effects on OCBE (organizational citizenship behavior to the environment); thus, OCBE mediated the relationship between GHRM practices and environmental performance (Anwar et al., 2020). Based on the review of the top local cited documents, they divulged a few domains in the GHRM studies: the connotation between green human resource management practices, GHRM and green supply chain practices, and the identification of key GHRM practices.

Table 3: Top Ten Local Cited Documents

No.	Title	Author(s)	Source	PY	LC	GC	LC/GC
1	Green Human Resource Management and Green Supply Chain Management: linking two emerging agendas	Jabbour, & de Sousa Jabbur	Journal of Cleaner Production	2016	55	381	14.44
2	Assessing green human resources management practices in Palestinian manufacturing context: An empirical	Masri, & Jaaron	Journal of Cleaner Production	2017	55	238	23.11

	study						
3	Progressing in the change journey towards sustainability in healthcare: the role of 'Green' HRM	Pinzone, Guerci, Lettieri, & Redman	Journal of Cleaner Production	2016	36	189	19.05
4	Envisioning the invisible: Understanding the synergy between green human resource management and green supply chain management in manufacturing firms in Iran in light of the moderating effect of employees' resistance to change	Nejati, Rabiei, & Chiappetta Jabbour	Journal of Cleaner Production	2017	36	180	20.00
5	The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study	Zaid, Jaaron, & Talib Bon	Journal of Cleaner Production	2018	33	293	11.26
6	State-of-the-art Green HRM System: sustainability in the sports center in Malaysia using a multi-methods approach and opportunities for future research	Gholami, Rezaei, Saman, Sharif, & Zakuan	Journal of Cleaner Production	2016	31	109	28.44
7	Green Human Resource Management for organisational citizenship behaviour	Anwar, Nik Mahmood, Yusliza, Ramayah, Noor Faezah,	Journal of Cleaner Production	2020	29	143	20.28

	towards the environment and environmental performance on a university campus	& Khalid					
8	The impact of green human resource management practices on sustainable performance in healthcare organisations: A conceptual framework	Mousa, & Othman	Journal of Cleaner Production	2020	29	180	16.11
9	Nexus between green intellectual capital and green human resource management	Yong, Yusliza, Ramayah, & Fawehinmi	Journal of Cleaner Production	2019	28	176	15.91
10	Green training and green supply chain management: evidence from Brazilian firms	Teixeira, Jabbour, de Sousa Jabbour, Latan, & de Oliveira	Journal of Cleaner Production	2016	23	201	11.44

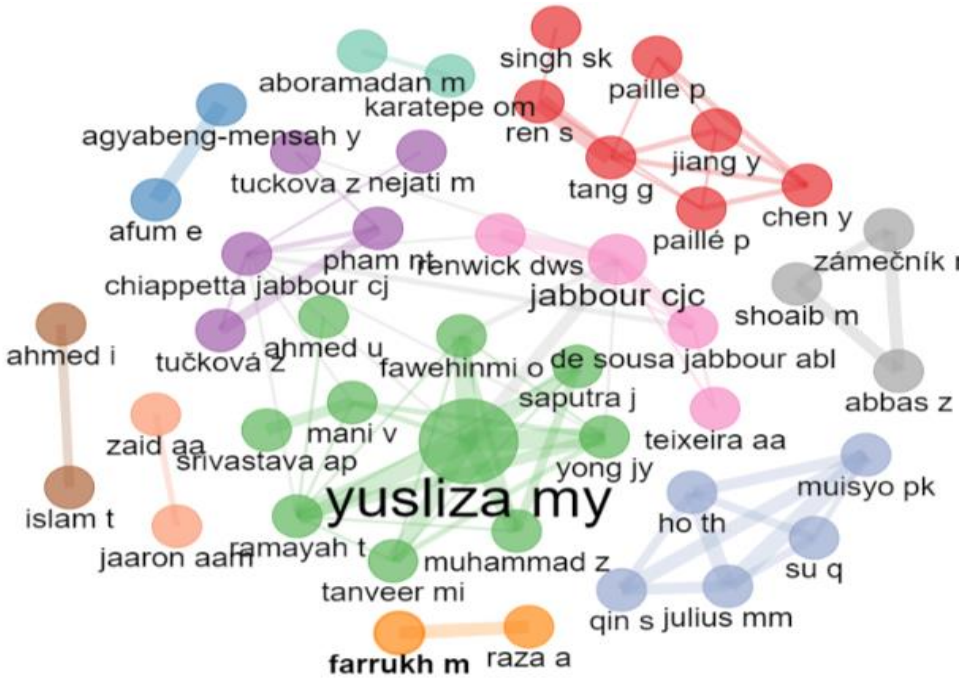
Scientific Mapping

Co-authorship Mapping

Figure 3 presents the network of co-authorship in the domain of green human resource management scholarly documents. The largest network (green) of co-authorship is led by Yusliza who authored 8 documents relevant to GHRM. This network focused on the influence of GHRM on job performance and turnover intention comprising social exchange theory (Yusliza et al., 2021), under a resource-based view, green employee empowerment significantly impacts GHRM practices (Yusliza et al., 2017), and influence of top management commitment and CSR on GHRM practices (Yusliza et al., 2019). Another significant network (red) of co-authors developed measurement items for GHRM practices with dimensions such as green recruitment and selection, training, performance management, pay and reward, and involvement (Tang et al., 2018), also the interaction of GHRM practices in between green transformational leadership, green innovation, and

environmental performance under the perspectives of the resource-based view and AMO theory (Singh et al., 2020). Henceforth, co-authorship network (purple), Pham et al. (2019) showed the influence of GHRM practices on organizational citizenship behavior while Nejati et al. (2017) discovered the synergy between GHRM practices and GSCM practices. Another crucial network (pink) examined the association between GHRM and GSCM (Jabbour & de Sousa Jabbour, 2016; Teixeira et al., 2016).

Figure 3: Co-Authorship Mapping

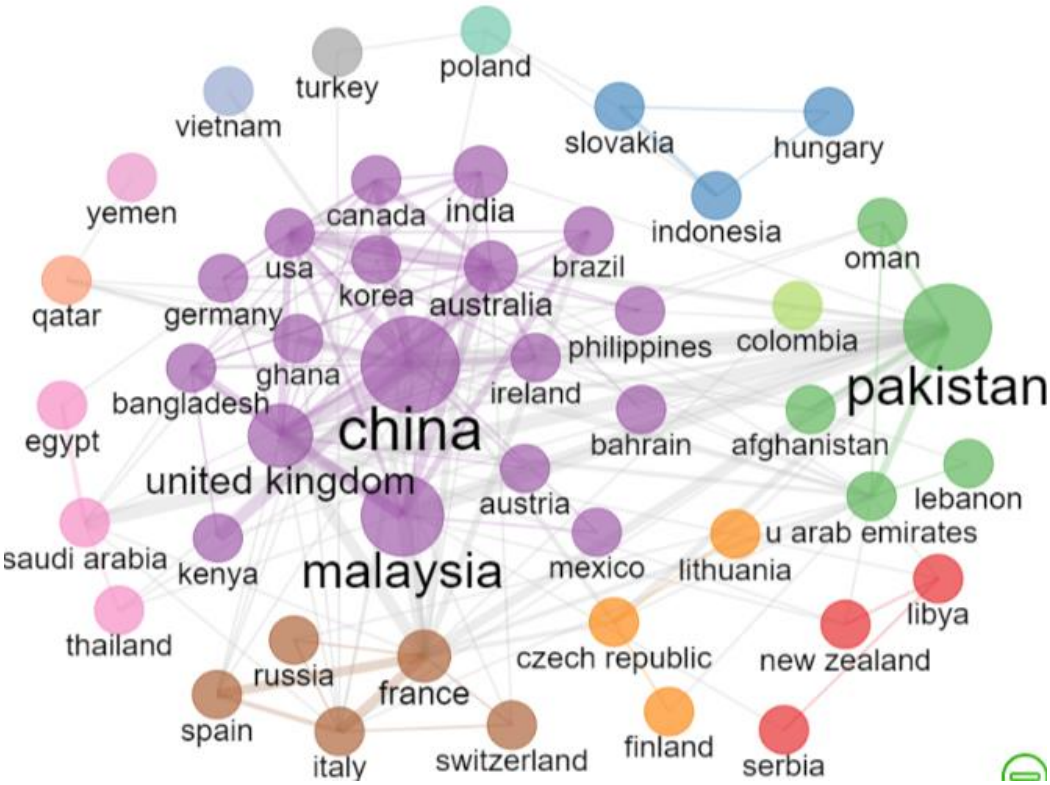


Collaboration Mapping

Figure 4 presents the collaboration network of affiliated countries. The results show the largest network formed by China which contributed the most to the network, followed by Malaysia and the United Kingdom. Besides, the USA, Canada, India, Brazil, Australia, Ireland, and some other countries collaborated to produce scientific documents relevant to GHRM. Henceforth, the second largest network is led by Pakistan which is incorporated into other countries including Oman, UAE, Lebanon, and Afghanistan. Meanwhile. Russia incorporated with some European countries namely, Spain, France, Italy, and Switzerland. Some other networks are

also observed in the figure associated with research on GHRM practices. These collaborations point out the diverse interest as well as scientific influence on GHRM throughout the world.

Figure 4: Collaboration Mapping of Countries



Thematic Analysis

Co-occurrence Mapping

Figure 5 presents the network of keywords co-occurrence in the domain of green human resource management. The figure presents the node links of keywords and the size of the node indicates the frequency of the keyword used while the thickness of the link presents the time of occurrence of a pair of keywords together in a document. Table 5 shows the crucial themes and trends of green human resource management scholarly documents. Hence, the figure exhibits that the largest node is green human resource management which refers to the hotspot of the documents understudy (Van Eck and Waltman 2014). This hotspot represents the largest cluster

in the mapping where GHRM is linked with environmental management and performance, sustainability, green behavior, individual green values, pro-environmental behavior, green creativity, green innovation, green transformational leaders, and leadership. This cluster also indicates the application of AMO theory, resource management, and resource-based view dominantly in the automobile and hotel industry, and small and medium enterprises, especially in India, Pakistan, and Malaysia. As a catalyst, foundation, and identification of further research agenda, potential researchers enable to identify these links of keywords as trends for present research in the domain of GHRM. Likewise, human resource management forms the second largest node in a cluster which is also associated with sustainable development, operations, and performance, organizational performance, resource allocation, natural resource management, green supply chain management, and personal training. In this cluster, structural equation modeling, partial least square, and least squares approximation are frequently applied as data analysis techniques. Meanwhile, green innovation forms another cluster by linking with green intellectual capital, knowledge management, competition, competitive advantage, corporate social responsibility, and green manufacturing assessed mostly in manufacturing and manufacturing firms adopting structural equation modeling on survey data. Therefore, these findings clearly demonstrate the array of existing trends and themes in scholarly documents relevant to GHRM which open the scope for future research to identify the appropriate methods, underlying theory, and variables.

Figure 5: Co-occurrence Mapping of Authors' Keywords

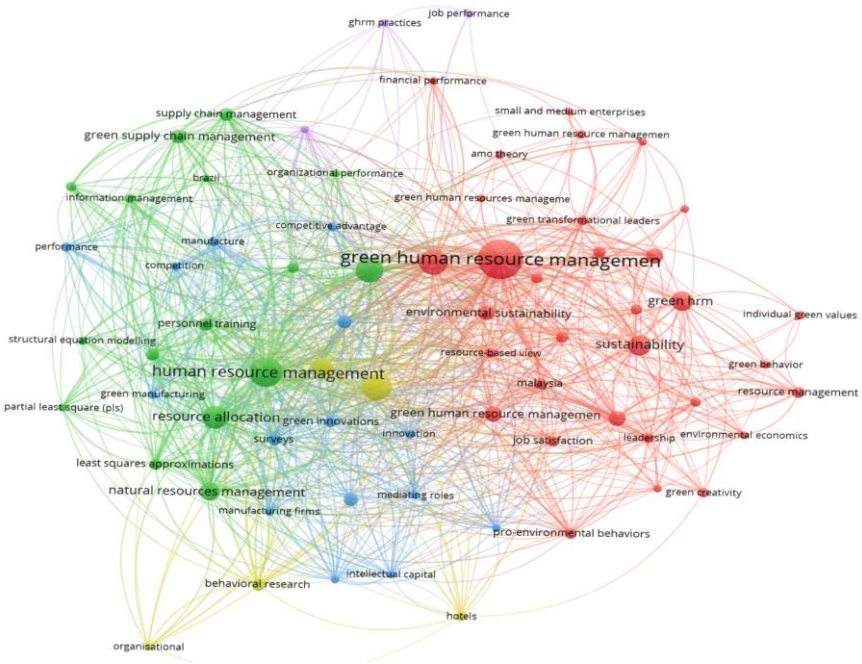


Table 4: Green Human Resource Management Trending Themes

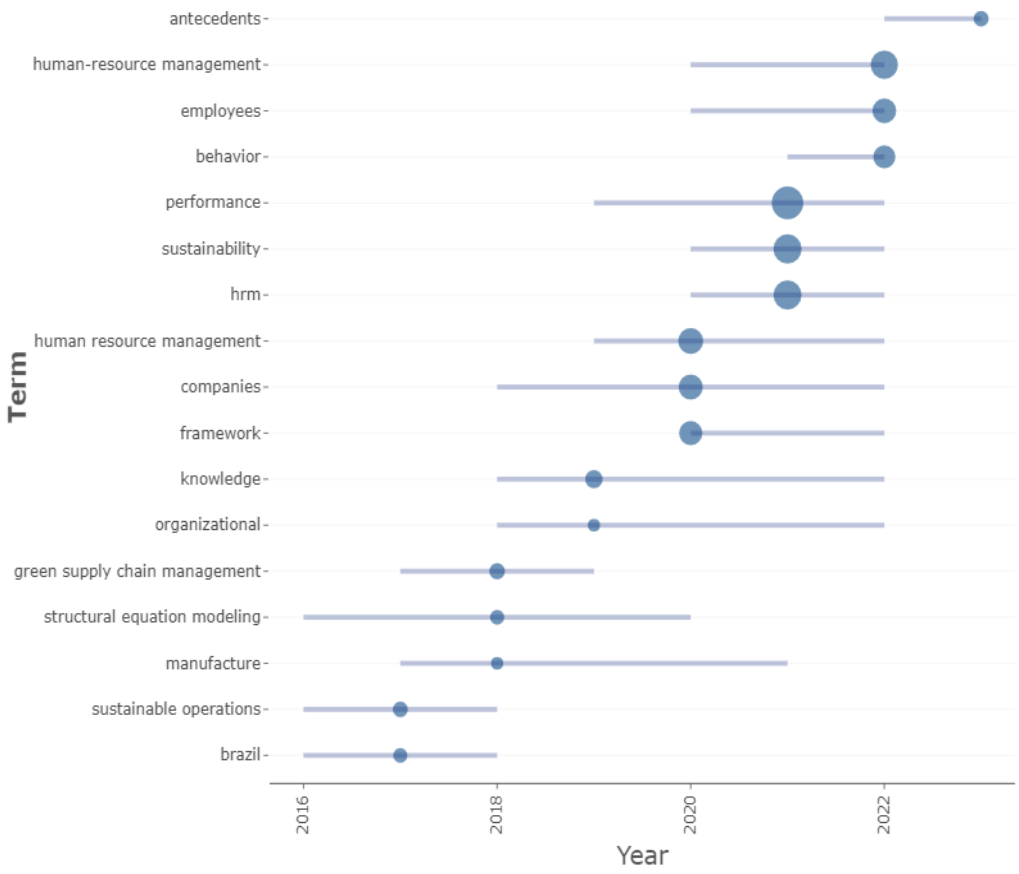
Cluster 1	**Cluster 2**
Green Human Resource Management, Green HRM practices Green behaviour, Individual green values, Pro-environmental behaviour, Job satisfaction Green creativity, Green innovation Green transformational leaders, Leadership Amo Theory, Resource management, Resource-based view Environmental Economics, performance, Sustainability, and Values, Financial performance Automobile industry, Hotel industry, Small and medium enterprise India, Malaysia, Pakistan	Brazil Green supply chain management, Supply chain management, Natural resources management, Human resource management, Information management Personnel training, Resource allocation Sustainable development, operations, and performance, Organizational performance Structural equation modelling, Least squares approximation, Partial least Squares
Cluster 3	**Cluster 4**

Green innovations, Innovation, Green intellectual capital, Intellectual Capital, Knowledge management Competition, Competitive advantage, Corporate social responsibility, Performance Green manufacturing, Manufacture and firms Mediating roles, Structural Equation modelling, Surveys	Human resource management, Environmental management, Organizational Hotels **Cluster 5** GHRM practices, Job performance Manufacturing sector

Thematic Evolution

Figure 6 shows the thematic evolution in the domain of green human resource management scholarly documents. This figure identifies the evolution of new themes in each period which ultimately refers to the inclusion of new themes that are linked to the main research topic. Based on the map, sustainable operations were the main attribute of the GHRM which focused mostly on Brazil during the period of 2016-2017. However, green supply chain management as a sub-theme was included while structural equation modeling was adopted to examine the GHRM practices in manufacturing firms. Organizational performance and knowledge performance were included in the domain while scholars also started to form the framework for companies to adopt GHRM practices in the HRM department during 2019-2020. Henceforth, sustainability and sustainable, and organizational performance started to receive attention from GHRM scholars in 2021, and green behavior and employee motivation were included to assess the GHRM practices in human resource management. Finally, the scholars are focusing on identifying significant antecedents of GHRM practices in the present time. This evolution mapping enables potential researchers to signify the themes and trends that widen the research domain thus creating opportunities for future studies.

Figure 6: Thematic Evolution Mapping



Discussion and Future Studies

This study performed a bibliometric analysis to articulate the crucial trends and themes in the domain of GHRM. The performance analysis unveiled the recent interest in GHRM studies taken in the year 2008. However, it took several years to receive significant attention from academic researchers. Particularly, it started to gain enormous focus in 2019 with a large number of publications and consistent attention. Hence, the citation metrics showed earlier impacts which demonstrates the influence on both academic and policy-level research. Thus, the findings clearly unveiled an emerging publication trend in the GHRM studies. Meanwhile, GHRM has been denoted as the relationship between HRM systems and the environmental effect of organizational activities (Ren et al., 2018). Thus, it includes sustainable HRM that refers to the three-dimensional approach and swaps away the environmental dimension (Ahmad, 2015). Therefore, sustainable HRM can be a further study path relevant to GHRM practices. Hence, it is observed that lack of

development of construct measurement in the plurality of GHRM practices. Though, Paillé et al. (2014), and Tang et al. (2018) constructed strategic HRM and ecological elements of HRM practices measurement instruments. Future studies may undertake to validate these instruments in different regions outside of China.
Based on scientific mapping, GHRM practices are limited to a few geographical contexts. Therefore, further studies can be protracted in other countries both developed, emerging, and under-developing countries. Thus, GHRM practices are largely linked to particular themes. For example, green behavior, individual green values, and pro-environmental behavior are present in the largest cluster (Anwar et al., 2020; Dumont et al., 2017; Paillé et al., 2014), green supply chain, supply chain management in the second-largest cluster (Jabbour & de Sousa Jabbour, 2016; Teixeira et al., 2016; Zaid et al., 2018), and green intellectual capital, green innovation, and knowledge management in the third cluster (Singh et al., 2020; Yong et al., 2019). Other factors such as green training and development, reward and compensation, job performance, work environment, and employee empowerment, are also exhibited in the different clusters. Based on these findings, it can be highlighted that the difference between these clusters is the motivation of organization factors and consequences on GHRM and green practices. Apart from it, AMO (Ability-Motivation-Opportunity) theory is dominant in the GHRM scholarly documents (Anwar et al., 2020; Gholami et al., 2016). From the methodological perspective, quantitative outperformed the qualitative analysis in this research domain. Further studies may adopt qualitative research design to highlight the procedures adopted by the organizations to develop and implement the GHRM framework would unquestionably help the area to grow. Besides, GHRM studies may also include some external factors such as consumers' awareness and demand, healthier product and services, and quality of products and services. Further studies can be taken to empirically examine the theoretical frameworks based on resource-based-view and stakeholder's theory.

CONCLUSION

The concept of GHRM has received enormous attention from both academics and practitioners. the main objective of this study is to explore the research trends, existing themes, and scopes for further studies. A bibliometric analysis is conducted to achieve this objective. The findings demonstrated an emerging trend in research publications while consecutively showing the influence on future researchers. Regarding the geographical context, China, Malaysia, and Pakistan are gradually showing high interest in this particular research domain. The main themes identified from the publications are classified into; reviews and framework development, GHRM implementation, consequences and determinants of GHRM adoption at the organizational level, and GHRM adoption motivations and outcomes at the individual level.

This study contributes to the prevailing body of literature in GHRM by the provision of composite information related to the GHRM publications, themes, and

geographical dominance. Besides, it also aids the GHRM literature by acknowledging the keywords (GHRM, sustainable HRM, strategic HRM, environmental management, sustainable performance) that form the core area of GHRM study and offer new and potential directions for further studies. This study further contributes at the organizational level by providing information related to GHRM practices. Therefore, HR professionals, top management, and line managers may enable to make effective decisions in regard to the design of GHRM that increases employees' abilities, inspire them, and forms a supportive and pro-environmental behavior. Finally, policymakers are able to find the prospects of GHRM research, frameworks, approaches, and dominant regions which enable them to invest more in scientific investigation in order to execute and implement GHRM practices at the national level.

Similar to any other study, this study also posits some limitations. Firstly, this study was performed comprehensively but not completely. This study only draws data from Scopus and the Web of Science. Further study can include other databases such as Google Scholar, and DOAJ for complete and comparative analysis. Besides, this study only included documents published in journals and conference proceedings excluding books and book chapters.

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