

## A JOURNEY OF 18 YEARS ON SUSTAINABLE HUMAN RESOURCE MANAGEMENT: A BIBLIOMETRIC ANALYSIS

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### **Abstract:**

The increasing acceptance of sustainability on a global scale affects human resource management equally. Global scholars are also looking on sustainable human resource management in an effort to make a definitive link between human resource management and sustainability. Using vosviewer and scopus database, a bibliometric analysis of 190 papers in this subject from 2006 to 2023 was carried out in analysis. We do statistical analysis and science mapping. The researcher's objective was to look into the worldwide distribution, research trend, top authors, contributing journals and contributing countries in sustainable human resource management. The examination shows that the idea remains in its infancy, it will emerge as a novel approach to human resource management. In recent times and expanding volume of research, with numerous publications published in prestigious journals. It places a strong emphasis on environmental concerns, indicating that human resource management should pay more attention to its role in promoting sustainability at workplace. By emphasising bibliometric findings and providing a thematic focus, this study sets itself apart from the others in the field. It advances knowledge in the area and provides valuable directions for future research.

**Keywords:** bibliometric analysis; sustainable human resource management; Sustainability; vosviewer

### **Introduction**

Sustainability as a concept has gained popularity over the last few decades in a number of sectors and conversation on the topic have been sparked by the club of Rome's initial study. The World Commission on Environment and Development of the United Nations (also known as the Brundtland Commission) release its findings. After the United Nation Brundtland Commission started a conversation about sustainability, the word "*sustainability*" became more widely used. Sustainability was characterised in the report as "development that meets the needs of the present without compromising the ability of future generation to meet their own needs" (Brundtland, 1987). It was also defined as "*the systematic, long-term use of natural resources to ensure their availability for future generations*" from a broader perspective. There were three acknowledge pillars of sustainable development "*economic, social and environmental*". The commission was worried about how environmental degradation was affecting society and economic progress (Brundtland Commission 1987).

Companies started to think about sustainability as a solution to all these problems. Therefore, a company can only achieve sustainable societal growth if it integrates sustainability into its organisational strategy (Wagner 2015).

Organisations are motivated by sustainability to attain equilibrium among their economics, social and environmental aspects (Yadav et al., 2019). Furthermore, the three layers of sustainability individual, organisational and societal are identified by Docherty et al. 2002. (Ehnert, 2009)

A novel approach to human resource management, sustainable HRM combines HRM takes with business sustainability to achieve both organisational and environmental goals (Ehnert 2009; Kramer 2014).

So as to evaluate the current state of knowledge on sustainable HRM, the purpose of this research is to perform a bibliometric analysis of recent publications on the subject. An extensive analysis of the literature demonstrates that the field of SHRM has been better understood since 2003, and that between 2019 and 2022 researchers' interest in this area increased. Consequently, prior research provided little insight; the most recent study concentrated on the last two decades for bibliometric analysis. In the last four years, there has been a greater emphasis on sustainable HRM. It is a sophisticated method that uses maps, charts and tables to illustrate information as it reads, extracts, and presents it in a comprehensive manner. (Khan et al., 2020; Chaudhary et al., 2022) in this bibliometric based research paper analysis is done by two different methods one is statistical analysis and other one is mapping analysis. Statistical analysis is done with the help of scopus itself and mapping analysis done with the help of vosviewer. In this examination, below listed research inquiries were examined:

#### **Statistical Analysis of Database**

Q-1. To analysis country wise contribution on sustainable human resource management between 2006 and 2023?

Q-2. To segregate documents, publish by year in scopus?

Q-3. To analysis the number of documents by author?

#### **Network/Mapping Analysis of Database**

Q-4. To explore fundamental ideas of sustainable human resource management studied till 2023?

Q-5. To analysis the collaboration pattern among authors working in the field of sustainable HRM?

#### **Literature Review**

At the beginning of the twentieth century, the term SHRM was first used. However, even with a growing number of recent studies on S-HRM, this area of study is still relatively young. But, sustainability in HRM is far more influencing and diverse than just social and environmental effects. (Jarlstrom et al., 2018). Sustainable HRM addresses personal management from a larger viewpoint, emphasising wider human/social results from HRM and an outlook for the future that enhances organisational sustainability, even though it is known that strategic HRM and sustainable HRM share many features. (Diaz-carrion et al., 2021). Late 1990s saw introduction of sustainable human resource management in Germany, Switzerland and Australia. (Ehnert & Wes, 2012) several scholars have defined the notion of S-HRM.

*“Sustainable HRM is the utilization of HR tools to help embed a sustainability strategy in the organisation and the creation of an HRM system that contributes to the sustainable performance of the firm. Sustainable HRM creates the skills, motivation, values and trust to achieve a triple bottom line and at the same time ensures the long-term health and sustainability of both the organisations internal and external stakeholders, with policies that reflects equity, development and well-being and help support environmentally friendly practices.”* (Zhang et al., 2019).

*“Adoption of HRM strategies and practices that enable the achievement of financial, social, and ecological goals, with an impact inside and outside of the organisation and over a long-term time horizon while controlling for unintended side effects and negative feedback.”* (Ehnert et al., 2016)

*“Sustainable HRM evolves around soft issues such as demonstrating sincerity towards the employees, including providing a decent work environment and conditions, providing development opportunities and being attentive to employees, physical and psychological well-being at work”.* (Wikhamn et al., 2019)

It is evident from the definitions above that the majority of definitions discuss the sustainability over time and the financial results of an organisation. As a result, strategic workforce management and effective employee management practices are relevant in long run.

Employees are extremely important resource in the company, which is why sustainable HRM prioritises workplace wellness, employee growth, retention, and well-being in order to increase employee satisfaction which ultimately improve sustainability of HRM. Furthermore, a lot of researchers believed that HR tasks are essentials to meet sustainability goals. (Boudreau et al., 2005; Faisal et al., 2020; Kramar 2024)

**Theoretical Structure** (AMO) ability, motivation, and opportunity theory given by Appelbaum et al. (2000) and Stakeholder theory which is given by Edward freeman’s (1984) is base of sustainable HRM.

According to the perspective of stakeholders, interactions between multiple parties, including government officials, environmentalists and stakeholders, establish the relationship between sustainable HRM and sustainability. It makes it evident that HRM strategies aim to meet stakeholder expectations in addition to considering the interest of employees. This strategy takes into account the concerns of stakeholders and employees as a whole.

Three criteria serve as the foundation of the AMO framework, which aims to enhance the company’s long-term results. The *“ability”* is focused on helping employees develop green competences so they can foster a renewable atmosphere both inside and outside the company. Encouraging staff members to engage in social activities is known as *“motivation”*, and it a joint duty between the company and the workforce.

It is an obligation of employment for employees to engage in sustainable behaviours, and employers have to encourage and promote this kind of work. The opportunity relates to creating an environment at work and an organisational culture that encourages employees to participate in environment friendly activities.

## Methodology

The outcomes of the published journals were described in the study through the use of bibliometric analysis. The use of bibliometric analysis in business research has become increasingly common. Scholars employ bibliographic analysis for diverse goals, such as assessing emergent tendencies within the assessment of papers and performances, structures for assistance and investigation composition, and ascertaining the conceptual framework of a specific topic within the current body of research. (Donthu et al., 2021). A methodology known as “bibliometric analysis” uses various statistical and material techniques to extract relevant data from a specific group of the discipline’s published works. (Gutierrez- Salcedo et al.2018). The investigation was conducted using the Vosviewer software due to its ability to analyse the relationships among the most cited authors, the cooperation of various writers, the coordination of countries, keywords, and relevant knowledge regarding the subject matter (Hoppen & de Souza Vanz 2016).

We mostly concentrated on “*science mapping*”, a type of bibliometric review. Science mapping has two advantages: it takes a broad perspective and adds quantitative rigour to the literature of publications, to carry out a carefully thought-out bibliometric analysis, because scopus has a wider selection of papers than other databases, it was selected. The findings indicated that 72% of all papers were included in scopus. (Vivek Kumar Singh et al., 2021) which is higher as compared to web of science and others. We omitted papers on related issues and only included studies that were specifically focused on sustainable HRM and other interconnected terms are excluded. We look up the following keywords which is related to article from scopus database. “*Sustainable human resource management*”, “*HRM*”, “*sustainability*”, “*human resource management*”, “*sustainable HRM*”, *Business Management*, and Accounting and the study’s time frame was restricted to 2006-2023.

Our initial search was centred around the terms (TITLE-ABS-KEY ( sustainable AND hrm ) AND TITLE-ABS-KEY ( sustainability ) ) AND PUBYEAR > 2005 AND PUBYEAR < 2024 AND ( LIMIT-TO ( SUBJAREA , “BUSI” ) ) AND ( LIMIT- TO ( DOCTYPE , “ar” ) OR LIMIT-TO ( DOCTYPE , “ch” ) OR LIMIT-TO ( DOCTYPE , “CP” ) ) containing conference papers, articles, and book chapters. Therefore, 190 documents were produced.

A comma-separated values file with the valid data was downloaded. Next, the data was examined for mistakes, blank spaces, and duplicate entries. The extracted and authorised data, which comprise 190 documents, undergo bibliometric analysis. The information includes the author’s name, document title, year of publication, citation, abstract and author keyword details. Both statistical analysis and network/mapping analysis were used to analyse our data. First the analysis focused on statistical analysis in which basically focus on 3 things that is nations contribution towards sustainable HRM, growth in the number of publications, and document by author which shows the number of publications by author. Second, the analysis focus on mapping analysis in which we explore the co-occurrence of all keywords in different research paper on sustainable HRM to look for any trends or patterns and to determine who the key individuals in the field of

research are. Finally, we talk about co-authorship by authors and co-authorship by countries. It highlights the subjects on which researchers in the field are most focused currently.

**Results and Discussion**

The findings and responses to the study questions posed in the beginning of the section are presented in this part. The results are shown in graph, tables, networks and according to the sequence in which the research issues of the study were addressed.

**Q-1.** To explore fundamental ideas of sustainable human resource management studied till 2023?

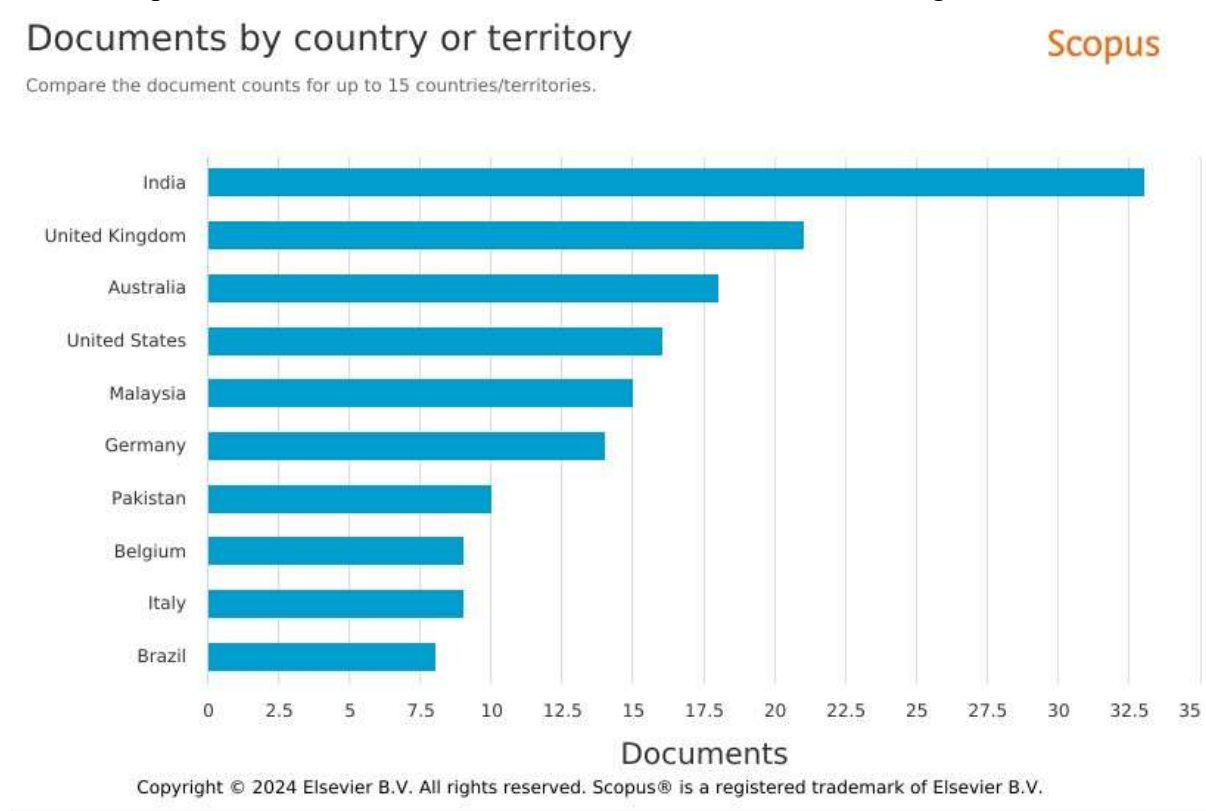


Figure 1. Document by Country

Source: Based on Scopus bibliometric data.

India has the largest number of publications (33) amongst the 56 countries that have published on sustainable HRM and sustainability, followed by The United Kingdom (21), Australia (18) and The United State (16). Developed countries like USA, UK, Germany and Australia with developing countries like India, Brazil, Belgium, Italy are focused on sustainability.

**Q-2.** To segregate document published by year in scopus?

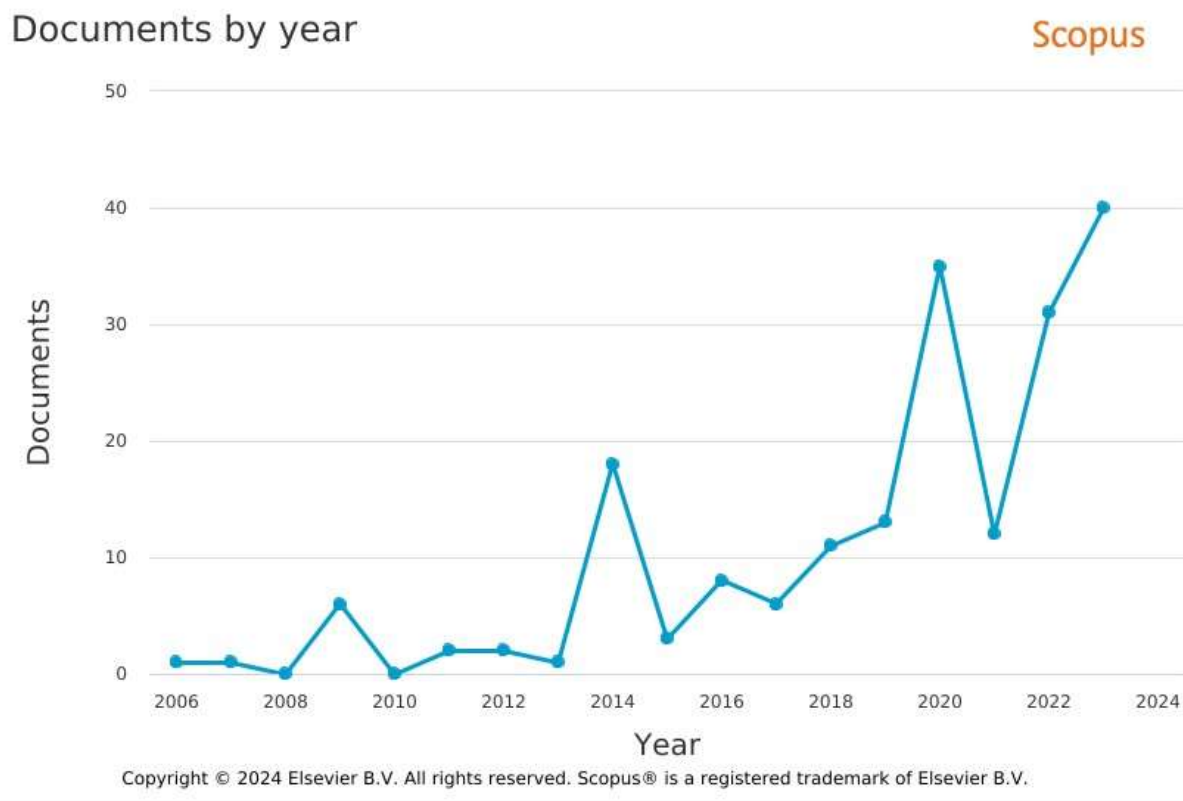


Figure 2. Document by year

Source: Based on Scopus bibliometric data.

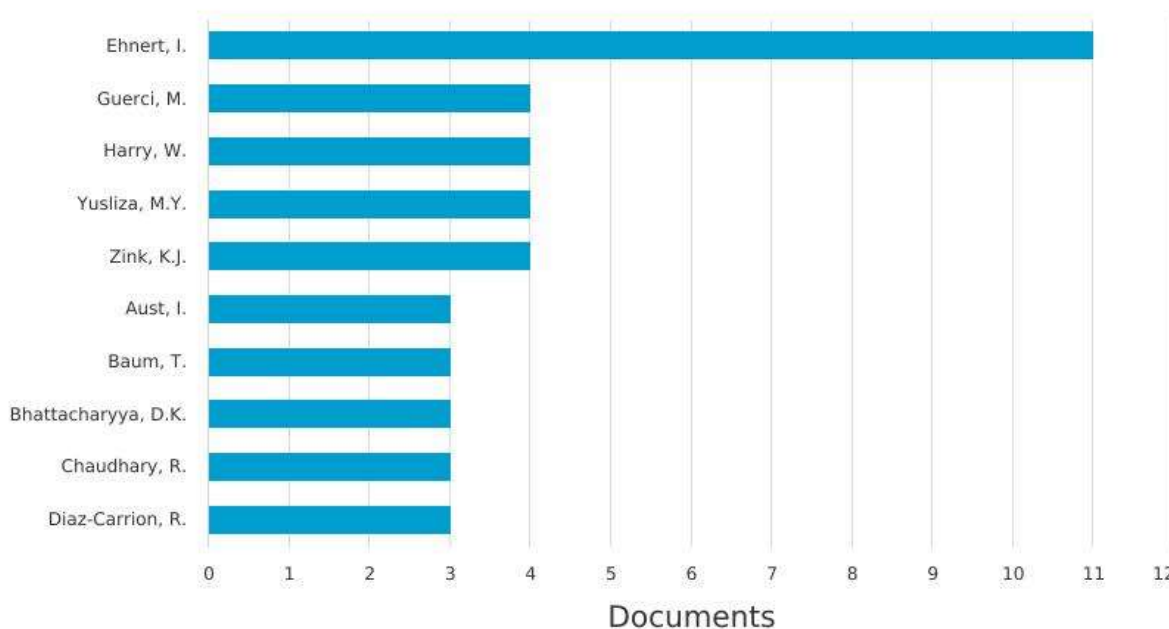
The scopus data shows that year 2023 has maximum publication. The last 15 years data display the earlier growth was at slower pace but 2018 onwards it has shift and the number are on rise. The year 2014 reflects the increase in publications but then drops in 2015 till 2017. Current statistics illustrates that the research scholars are focused on sustainable HRM and sustainability.

**Q-3.** To analyse the number of documents by author?

## Documents by author

Scopus

Compare the document counts for up to 15 authors.



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Figure 3 Document by Author.

Source: Based on Scopus bibliometric data.

Those who contribute to sustainable HRM the most frequently, measured by the quantity of ‘scopus documents’ are Ehnert, I (11), Gueric, M., Harry, Yusliza, M.Y., Zink, K.J. (each of them with 4 publications). Aust, I., Bhattacharyya, D.K., Chaudhary, R., Diaz-Carrion, R. (each of them with 3 publications). The graph shows that the it is still in developing phase and need more attention. As a part of global initiatives towards sustainability, the sustainable HRM plays important role.

**Q-4.** To explore fundamental ideas of sustainable human resource management studied till 2023? With vosviewer configure for all keywords and a co-occurrence keyword criterion of no less then five instances, the resultant table shows 19 keywords. The size of 7371 (co-occurrences) indicates that the most common co-occurring terms were ‘human resource management’ (50), ‘sustainable development’ (33), ‘sustainability’ (54) ‘resources allocation’ (14), and environment management (13).

Table-1 Unit Analysis of co-occurrences with all keywords

Keyword	Occurrences	Total Link Strength
Human Resource Management	50	131
Sustainable Development	33	118
Sustainability	54	85
Resource Allocation	14	67

Environmental Management	13	57
Green HRM	19	46
Sustainable HRM	44	44
Corporate Social Responsibility	21	43
Environmental Performance	8	33
Industrial Research	6	31
Environmental Sustainability	10	30
Planning	5	29
Personal Training	5	24
Natural Resource Management	5	22
Corporate Sustainability	8	10

(Source: Data Processed, Scopus)

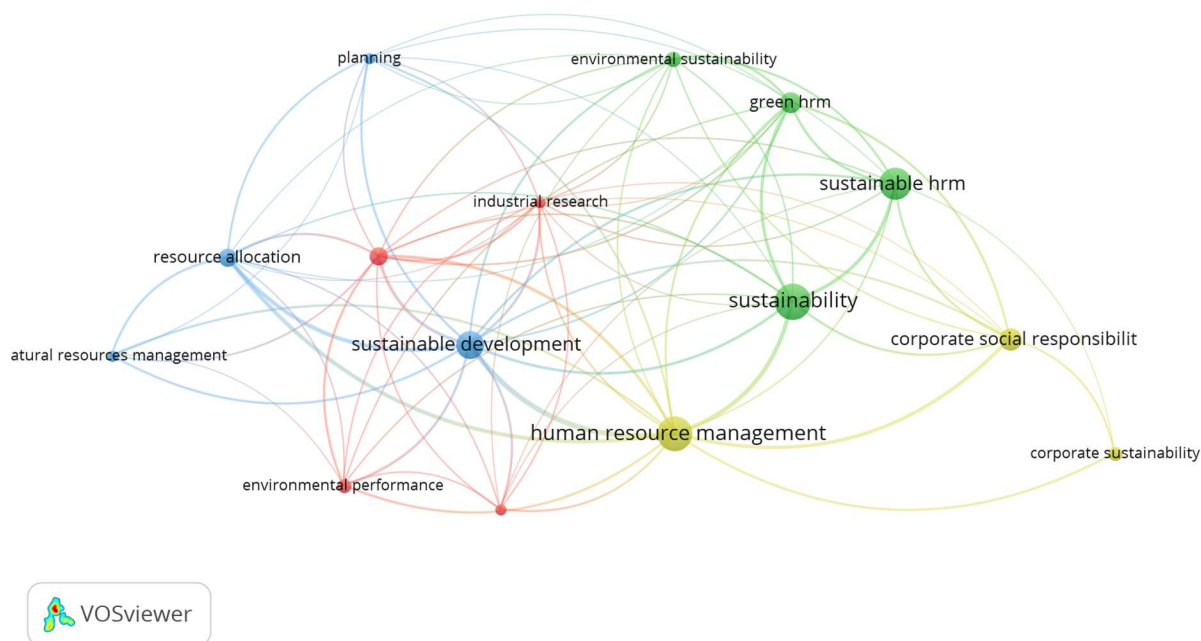


Figure-4. Co-occurrence link map with all keywords

Note- just 15 out of 737 keywords reached the required minimum of five keyword appearances.

Source: Based on Vosviewer results.

The main keyword and their corresponding node sizes are displayed in figure 1. Bigger nodes and keywords carry more weight; thicker lines denote more co-occurrence; and closer nodes are associated with stronger results. The network shown is a co-occurrence which the authors use most frequently. The above map is focused on identified the newest subjects that academics are interested in sustainable human resource management. The co-word representation used to determine the literature’s study emphasis. Topical recency analysis was performed on the co-word



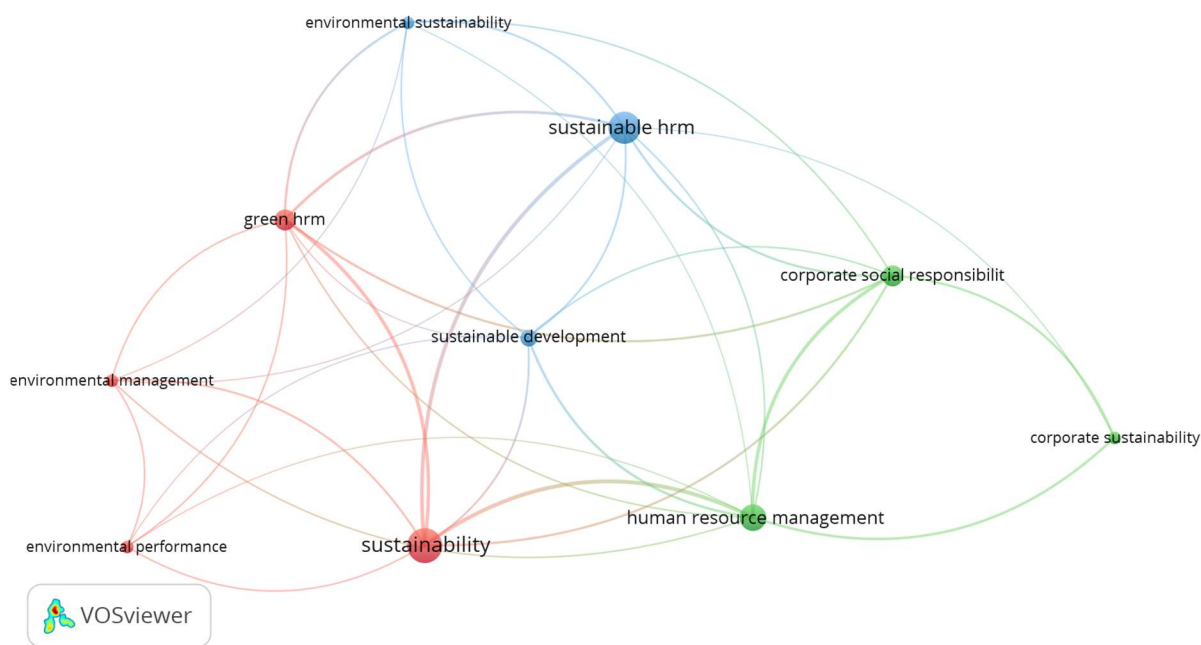
map data and frequency of occurrence. Topics with the least shades include human resource management HRM, the trend is towards sustainable achievements.

This Distribution of the most often used keywords is main focus of this analysis via way of keyword co-occurrence (keywords occurring together the same article). The objective is to determine and emphasises the most significant areas of sustainable HRM research. The software determines the keywords which has minimum number of co-occurrences is five and result shows 543 keywords but only 13 meets the threshold. Top 13 keywords are listed in table 1, along with the total link strength and keyword co-occurrences.

**Table-2 Unit Analysis of Co-occurrence with Author’s Keywords**

Keyword	occurrences	Total Link Strength
sustainability	54	62
Human Resource Management	32	44
Sustainable HRM	44	35
Corporate Social Responsibility	19	33
Green HRM	19	32
Sustainable Development	12	22
Environmental Sustainability	8	15
Environmental Management	7	12
Environmental Performance	7	11
Corporate Sustainability	8	10

(Source: Scopus Data Processed)



## Figure-5. Co-occurrence link map with Author's Keywords

Note- Just 10 out of 543 keywords reached the required minimum of five keyword appearances.

(Source: Data Processed Scopus)

With the help of Vosviewer software, we came to know the terms that writers in the field of sustainable human resource management most commonly use. Three groups of term have been color-coded. In light of the cluster, we find top three words. The most linked-to terms are sustainability with 54 occurrence and 62 link strength. Human resource management is the second most linked-to and often occurring keyword with 32 link strength and 44 occurrence and the last word is sustainable HRM with 44 occurrence and 35 link strength. Three cluster are identified based on the co-occurrence. Cluster one is emphasized with red colour and having 4 items environmental management, environment performance, green hrm, sustainability. Cluster two is emphasised with green colour and having 3 items corporate social responsibility, corporate sustainability, human resource management. Cluster three is highlighted with blue colour and having 3 items, environmental sustainability, sustainable development and sustainable HRM. The graph shows less studies conducted on sustainable human resource management as a subject. The co-occurrence shows that the HRM was always a focus for scholars. Sustainable development is the future. Sustainable HRM is developing human resource while being focused on sustainable development and best practices to extend the resources for future. In accordance according to a keyword analysis, sustainable development and human resource management are related to each other.

**Q-5.** To analyse the collaboration pattern among authors working in the field of sustainable HRM? An analysis of co-authorship was carried out. In order to respond to this inquiry for research, out of 416 authors only 4 meet the threshold with four being the minimum.

Table-3 co-authorship as Unit Analysis with author's

<b>Author</b>	<b>Documents</b>	<b>Citations</b>	<b>Total Link Strength</b>
Ehnert, Ina	11	508	5
Harry, Wes	4	100	5
Zink, Klaus J.	4	114	4
Guerci, Marco	4	418	0

(Source: Scopus Data Processed)

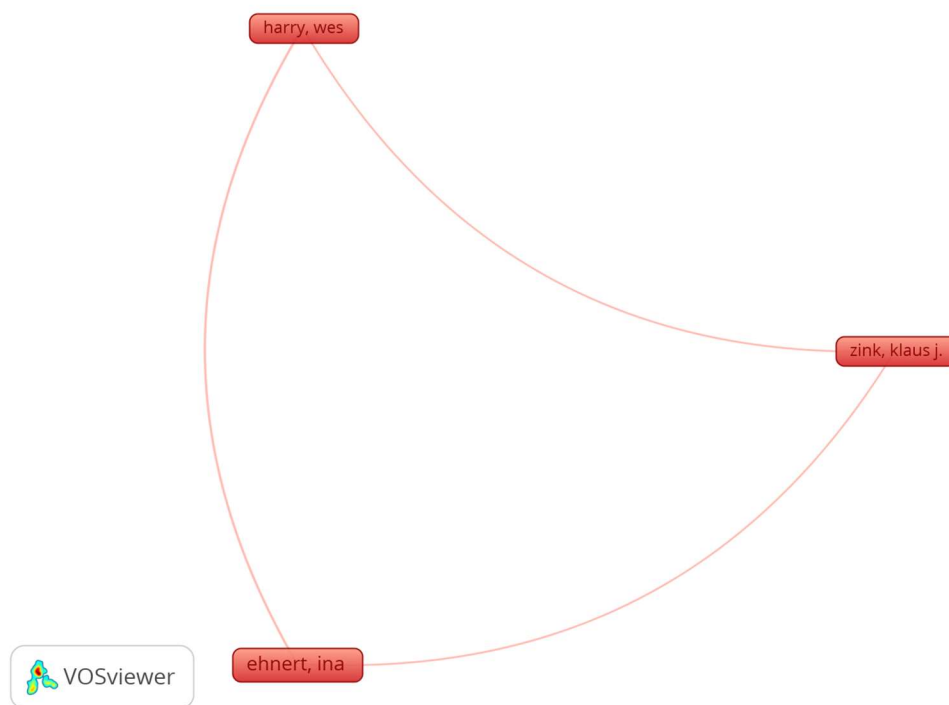


Figure-6. Co-authorship network with Author’s

Note-4 out of 416 authors meet the minimal amount of documents required with four being the minimum.

(Scopus: Data Processed)

The network shows that there are no strong connections among the writer’s, lack of cooperation as a potential reason for the field’s poor advancements. (figure-6), despite the fact that a few of these writers have the most frequently cited works. A portion of the four elements inside the network are not interconnected. Three items make up the connecting objects. Once is enhert, ina zink, Klaus j and harry, wes. Ehnert made notice of this and brought up the lack of cooperation as a potential reason for the field’s poor advancement.

Based on co-authorship analysis, which examines an author’s collaboration with other writers in a different country, this study employed the author’s Nation as the analytical unit. Nation and requires a minimum of seven documents per country. As per nationality criteria top 12 Nations are listed in table 4 and connection with other countries, United Kingdom has partnered with nineteen countries and has received 1140 citations overall and this country is on top as shown in table below.

Table-4 co-authorship as unit Analysis with Country

Country	Document	Citation	Total Strength	Link
United Kingdom	21	1488	15	
Unites States	16	1028	9	

Belgium	9	690	8
Malaysia	15	644	8
Germany	14	519	6
Italy	9	584	9
Australia	18	838	4
Brazil	8	1310	3
Pakistan	10	422	3
Poland	7	167	2
India	33	498	1
Spain	8	201	1

(Source: Scopus Data Processed)

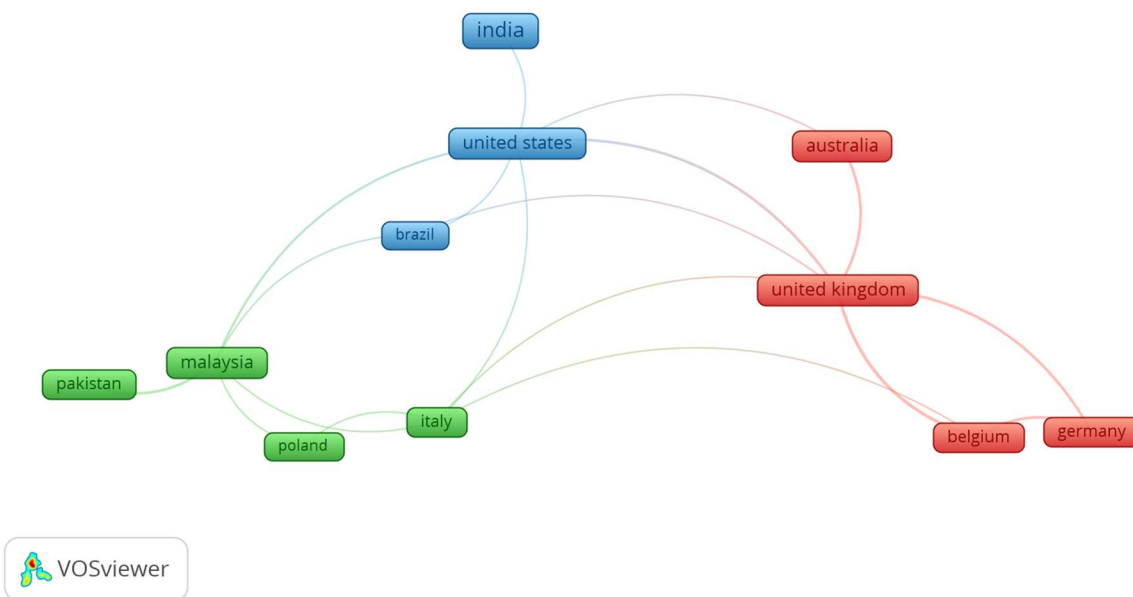


Figure-7. Co-authorship as link map with country

Note- 12 out of 56 authors the minimum number of documents required, with seven being the minimum.

(Source: Based on Vosviewer Result)

The field of sustainable human resource management is still developing. Out of twelve, eleven makes connection, which shows three clusters. The first one carry 4 items (Australia, Belgium, Germany, and United Kingdom), second cluster (Italy, Malaysia, Pakistan, Poland), third one is (Brazil, India, United States. Compared to the blue cluster, the red and green cluster has the greatest number of countries. It shows that collaboration at national level with authors and sustainable HRM are still in progressive stage.

## Conclusion and Recommendations

This study shows bibliographic evaluation of sustainable HRM by researchers from 2006 to 2023 using on data from the scopus database. This work provides a summary of the research that was done on sustainable Human Resource Management trends in identifying research and common issues. This study offers academics a path forward eager to learn about SHRM, provide details on the history and present situation key developments in the realm of managing personnel strategies that are sustainable. Additionally, the results display a notable lack of collaboration and limited number of articles (190 documents), emphasising the need for more research, providing insightful information for further study.

There are certain study limitations that should be noted. The scopus database was exclusively use in this investigation. Therefore, it is advised to perform a bibliometric study on additional databases such as web of science, and others. Also, this study does not include the citation and co-citation part. Future research will be able to open a space for new research innovations and learn more about sustainability and sustainable HRM through the usage of the bibliometric approach employed in this work.m

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