



THE EVOLUTION OF SUSTAINABLE HUMAN RESOURCE MANAGEMENT RESEARCH: A
BIBLIOMETRIC REVIEW

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Abstract

Sustainable Human Resource Management (Sustainable HRM) has become a prominent topic in organizational research, driven by the increasing imperative to embed sustainability into corporate strategy and operations. This study employs a bibliometric approach to analyze the intellectual, geographical, and thematic progression of Sustainable HRM literature. A total of 229 articles published between 2005 and 2025 were retrieved from the Scopus database and analyzed using VOSviewer. The analysis includes author co-authorship, international collaboration, keyword co-occurrence, and temporal overlay visualization. The findings indicate a substantial growth in research output, with the United Kingdom, the United States, and India emerging as leading contributors. Author co-authorship mapping reveals influential clusters, notably around Jabbour CJC. Thematic analysis identifies five dominant clusters: green HRM, corporate social responsibility (CSR), employee well-being, strategic alignment, and workforce adaptability in the post-pandemic era. The overlay visualization highlights a chronological shift from foundational themes such as environmental sustainability toward emergent topics like digital transformation and organizational resilience. This study provides an integrative overview of the evolution of Sustainable HRM scholarship, identifies research gaps, and outlines directions for future inquiry. The findings offer both theoretical contributions and practical implications for aligning human resource strategies with long-term sustainability objectives.

Keywords: *Bibliometric Analysis, Collaboration Network, Green HRM, Organizational Resilience, Sustainable Human Resource Management*

INTRODUCTION

Sustainability has become a key focus in the strategic management of global organizations. What was once regarded merely as a corporate ethical complement has now evolved into a fundamental driver of long-term policy direction, including in human resource management (HRM). This shift has fostered the emergence of a new approach known as Sustainable Human Resource Management (Sustainable HRM), which integrates

economic, social, and environmental objectives into HR functions and policies. This paradigm change has repositioned HR from being primarily an administrative executor to becoming an agent of organizational transformation, balancing productivity with social responsibility [1], [2].

The study of sustainable HRM has significantly expanded, embracing diverse themes. Prior research has highlighted the links

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between HR practices and organizational sustainability performance, especially in areas such as green HRM, corporate social responsibility (CSR), sustainable competence development, employee well-being, and diversity and inclusion management [3], [4]. An integrated HRM approach aligned with sustainability principles has been shown to improve organizational resilience in the face of long-term challenges, while simultaneously enhancing competitiveness through active employee participation in sustainability agendas.

Technological advancements, particularly digital transformation, have also led to fundamental shifts in HR systems. Innovations such as artificial intelligence (AI), people analytics, and automation are not only transforming work patterns but also introducing new ethical dimensions and redefining labor relationships [5]. Concurrently, globalization and increasing workforce diversity require HR policies that are adaptable to complex cultural and regulatory contexts [6]. These trends underscore the need for HRM models that are not only operationally responsive but also resilient to external disruptions and capable of addressing long-term socio-ecological challenges.

Global crises such as the COVID-19 pandemic have further underscored the importance of sustainability-focused HRM. The pandemic exposed the vulnerabilities of conventional HR systems, particularly in mental health support, work flexibility, and organizational resilience. HRM practices emphasizing empathy, trust, and employee well-being have proven instrumental in maintaining operational continuity and strengthening organizational cohesion [7]. In this context, sustainable HRM is no longer a theoretical discourse but a practical necessity for building resilient organizations.

Several theoretical frameworks have been used to reinforce the academic foundation of sustainable HRM, including the Triple Bottom

Line [8], Stakeholder Theory [9], and Institutional Theory. These frameworks underscore the critical role of HR in achieving the Sustainable Development Goals (SDGs). However, the existing literature remains fragmented and lacks a comprehensive understanding of how the field has evolved systematically over time. Many studies have focused on narrow topics such as employee well-being or green HRM, without integrating these findings into a broader chronological and conceptual framework.

Moreover, there is a noticeable gap in bibliometric studies that systematically map the intellectual dynamics, key contributors, and international collaboration patterns in this field. A comprehensive understanding of the sustainable HRM research landscape is crucial to avoid redundant research efforts and to clarify the trajectory of academic development. Without systematic mapping, the field risks theoretical stagnation and diminishing relevance in addressing contemporary challenges.

In response to these gaps, this study aims to conduct a bibliometric analysis of the literature on sustainable HRM published between 2005 and 2025. The analysis utilizes VOSviewer software to process data retrieved from the Scopus database. Techniques employed include co-authorship analysis, keyword co-occurrence mapping, and visualization of collaboration patterns among countries and institutions. This research is expected to offer a comprehensive overview of the intellectual structure, thematic trends, and collaborative networks shaping the sustainable HRM domain.

By providing both visual and quantitative mapping of the field's development, this study offers a significant academic contribution to researchers and practitioners alike. It not only highlights dominant themes but also identifies underexplored areas that offer promising opportunities for future investigation. The findings are expected to strengthen theoretical



foundations, guide the development of integrative models, and foster more inclusive, ethical, and sustainable HRM practices.

THEORETICAL BACKGROUND

The theoretical foundation of Sustainable Human Resource Management (Sustainable HRM) draws from interdisciplinary approaches that interconnect organizational sustainability with human capital development. This paradigm emphasizes the integration of economic, environmental, and social dimensions into HR strategies, aiming to support long-term organizational viability and societal well-being [1], [2].

Sustainable HRM has evolved from and remains closely tied to several traditional HRM models [15]. The Strategic Human Resource Management (SHRM) approach emphasizes the alignment of HR functions with the organization's long-term strategic goals [3]. Meanwhile, the Resource-Based View (RBV) theory positions human capital as a core intangible asset that generates competitive advantage [4]. In contrast, sustainable HRM seeks to balance this performance orientation with ethical, ecological, and social imperatives [5].

One of the most widely adopted frameworks in sustainable HRM is the Triple Bottom Line (TBL), which advocates for a balanced focus on profit (economic), people (social), and planet (environmental) [6]. Within this perspective, HR policies are expected not only to increase productivity and organizational efficiency, but also to enhance employees' quality of life, uphold diversity and equity, and minimize ecological impacts.

Another relevant theory is the Stakeholder Theory, which views organizations as part of a broader socio-ecological system where they must be accountable to multiple stakeholders, including employees, communities, customers, and the environment [7]. HRM, therefore, becomes a vehicle for

fostering ethical relationships and participatory governance mechanisms within organizations.

The Institutional Theory also offers insights into how external norms, values, and regulations influence HRM practices. This theory explains how organizations adopt sustainability-oriented HRM policies in response to pressures from governmental regulations, industry standards, and societal expectations [8], [16]. In this context, HR plays a key role in facilitating the institutionalization of sustainability values into the organizational culture and operations.

Recent developments have highlighted the emergence of Green Human Resource Management (Green HRM) as a specialized field within sustainable HRM. Green HRM emphasizes HR functions that support pro-environmental behavior, such as green recruitment, training, performance appraisal, and employee engagement [9], [14]. The adoption of Green HRM reflects growing awareness of environmental sustainability as a strategic imperative in HR policies [17].

Collectively, these theoretical frameworks provide a foundation for understanding the multidimensional nature of sustainable HRM. They inform the development of HR systems that are not only efficient and strategic, but also ethically grounded, socially inclusive, and environmentally responsible. In this study, these theories guide the analysis of literature trends and collaborative structures in the global discourse on sustainable HRM.

METHODOLOGY

This study applies a bibliometric analysis approach to investigate the intellectual structure and thematic evolution of research on Sustainable Human Resource Management (Sustainable HRM) [18]. Bibliometric analysis is a quantitative method widely used to map scientific landscapes, identify influential scholars and documents, and visualize

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collaboration patterns within a research field [6], [20].

The Scopus database was selected due to its extensive coverage of peer-reviewed journals and its robust indexing of global academic output. The search strategy used the keywords "sustainable human resource management" and "sustainable HRM" applied to article titles, abstracts, and keywords. The initial search yielded 272 documents. After applying exclusion criteria including duplicates, inaccessible full texts, and out-of-scope studies a total of 229 articles were selected for analysis, covering the perio...

The data were processed and analyzed using VOSviewer, a bibliometric software tool designed to construct and visualize bibliometric networks[10]. Three types of analyses were conducted: co-authorship analysis, country collaboration mapping, and keyword co-occurrence analysis. Co-authorship analysis reveals collaborative relationships among authors and the formation of research clusters in the field [7]. Country-level analysis illustrates international research linkages ...

Each visual output produced by VOSviewer was complemented with descriptive statistical data, including the number of documents, total link strength, and frequency of keyword occurrences. The bibliometric maps were presented in three modes: network visualization, overlay visualization, and density visualization. Network maps show clusters of entities (authors, countries, or keywords) based on co-occurrence strength. Overlay visualizations display the temporal progression of themes, highlighting the appear...

By integrating bibliometric mapping and descriptive analysis, this study offers a comprehensive view of the development of the Sustainable HRM research domain. This methodology enables the identification of central authors, dominant themes, underexplored areas, and potential research directions thereby contributing to a deeper

academic understanding and theoretical consolidation of the field [8], [9].

RESULTS AND DISCUSSION

This section presents and interprets the findings derived from bibliometric analysis on Sustainable Human Resource Management (Sustainable HRM). The results are structured into key areas: author co-authorship networks, country collaboration, keyword co-occurrence, and temporal evolution of research themes. Each subsection includes visualizations generated through VOSviewer and is accompanied by analytical interpretation of trends and patterns in the dataset of 229 articles retrieved from Scopus.

1. Author Co-Authorship Network

The co-authorship network analysis reveals the structure of intellectual collaboration among scholars in the field of Sustainable HRM. Using VOSviewer, 35 authors with a minimum of two publications were identified and clustered into distinct research groups based on co-authorship ties. As shown in Figure 1, the co-authorship map reveals four major clusters. The first cluster, marked in red, centers around Jabbour CJC, who is recognized for prolific contributions to the green HRM literature. This cluster also includes authors such as Sehnem S and Renwick DW, who frequently collaborate on topics involving sustainability practices and strategic HRM. The second cluster, highlighted in green, includes Amrutha VN and Geetha SN, whose work focuses on the social sustainability dimension of HR practices, including equity and employee well-being. Additional clusters highlight emerging researchers from various regions who are contributing to niche areas within the field.

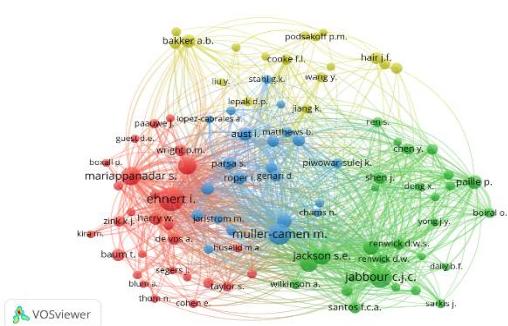


Figure 1. Author Co-Authorship Network in Sustainable HRM Literature

The thickness of the lines between nodes indicates the strength of collaboration, with denser connections suggesting long-standing partnerships and co-authored publications. Jabbour CJC emerges as the most central figure in the network, evidenced by both publication volume and total link strength, underscoring their pivotal role in shaping the field's theoretical development. These findings reflect a relatively cohesive but still expanding intellectual landscape, where key authors serve as hubs that integrate diverse theoretical perspectives. The fragmentation of clusters also suggests potential for greater cross-cluster collaboration, which may help bridge methodological gaps and stimulate interdisciplinary innovations in Sustainable HRM.

2. Most Cited Articles

Analyzing the most cited articles provides insight into the intellectual foundations and influential contributions within the field of Sustainable HRM [19]. The citation count reflects the scholarly impact and relevance of each publication, especially in shaping subsequent research directions and theoretical frameworks.

Table 1. Top 10 Most Cited Articles in Sustainable HRM Literature

Author(s) & Year	Title	Citations	Author(s) & Year	Title	Citations
Ehnert, I. (2009)	Sustainable Human Resource Management: A Conceptual and	654	Davidescu et al. (2020)	Work Flexibility, Job Satisfaction, and Job Performance	241

Exploratory Analysis

Mariappanadar, S. (2003)	Sustainable Human Resource Strategy: Dilemmas of Retrenchment	431
Jabbour, CJC & Santos, F C(2008)	The Central Role of HRM in Sustainable Organizations	391
Kramar, R. (2014)	Beyond Strategic Human Resource Management: Is Sustainable HRM the Next Approach	365
Yong et al. (2020)	Pathways Towards Sustainability in Manufacturing Organization	328
Amrutha & Geetha (2020)	A Systematic Review on Green HRM and Social Sustainability	301
Chams & García-Blandón (2019)	The Role of HRM in Adopting the SDGs	289
Macke & Genari (2019)	Systematic Literature Review on Sustainable HRM	273

Opatha, H.H.D.N.P. (2019)	Expanding Horizons of Sustainable HRM	226
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Source: Scopus-based citation data, processed by the authors (2025)

These top-cited articles represent a spectrum of topics, from foundational theoretical frameworks [6], [10] to applied studies exploring green HRM, strategic alignment, and social sustainability. Notably, many of the highly cited works integrate sustainability with broader organizational strategies, demonstrating that the impact of Sustainable HRM extends beyond functional HR concerns.

The presence of articles published after 2019 among the top citations despite their relatively recent publication suggests an increasing scholarly interest and momentum in the field. This reflects both the rising urgency of sustainability issues in corporate management and the evolving role of HRM in addressing global challenges such as the SDGs, environmental change, and post-pandemic work transitions.

3. Country Collaboration

The country-level collaboration analysis reveals the geographic distribution and international connectivity in Sustainable HRM research. Using VOSviewer, a total of 37 countries were identified with at least five publications each, forming several distinct clusters of collaboration.

As illustrated in Figure 2, the international research landscape is led by countries such as the United Kingdom, the United States, and India. These countries demonstrate strong interlinkages, reflected by thick lines indicating frequent co-authored publications and collaborative research projects. The UK serves as a central hub, bridging multiple clusters that span Europe, Asia, and Oceania.

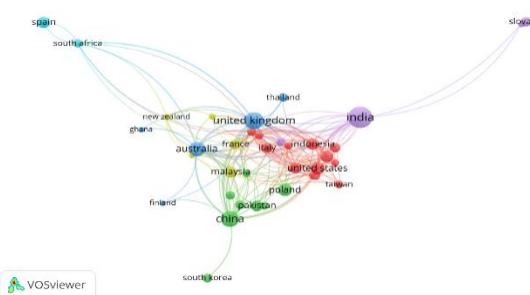


Figure 2. Country Collaboration Network in Sustainable HRM Research

The most productive countries in terms of publication volume are summarized in **Table 2** below.

Table 2. Top 10 Countries in Sustainable HRM Publication

Country	Documents	Total Link Strength
United Kingdom	55	312
United States	43	298
India	36	267
Australia	29	243
Germany	25	221
China	22	204
Netherlands	20	186
Canada	18	179
Indonesia	16	165
Spain	14	153

Source: Scopus data analyzed by authors (2025)

These results indicate that Sustainable HRM is an increasingly global field, although concentrated in a few dominant regions. Countries such as Indonesia are emerging contributors, reflecting broader inclusion of Global South perspectives. However, the disparity in link strength also highlights the need for more equitable

international collaboration and knowledge exchange across underrepresented regions.

International collaboration is critical not only for advancing comparative insights, but also for promoting inclusive HRM practices that reflect diverse institutional, cultural, and ecological contexts.

4. Keyword Co-Occurrence

Keyword co-occurrence analysis helps identify dominant themes, emerging topics, and the conceptual structure within the Sustainable HRM literature [19]. Using VOSviewer, a total of 147 keywords were extracted from 229 documents, with a minimum occurrence threshold of five.

Figure 3 displays a keyword network composed of five major clusters, each representing distinct thematic concentrations. The red cluster focuses on “green human resource management,” “environmental management,” and “green practices.” This group of keywords reflects a growing body of literature integrating HRM with environmental sustainability and green organizational behavior.

The green cluster includes terms such as “corporate social responsibility,” “stakeholder engagement,” and “sustainability reporting.” These keywords suggest a conceptual focus on aligning HRM with organizational ethics and external stakeholder expectations. The blue cluster emphasizes internal employee-related constructs such as “employee well-being,” “engagement,” “motivation,” and “psychological climate.” This reflects an HRM subdomain that prioritizes social sustainability and the creation of meaningful work environments.

The yellow cluster revolves around the integration of HRM with strategic goals, innovation, and performance. Keywords like “strategic HRM,” “organizational performance,” and “sustainable development” are central here. Finally, the

purple cluster includes newer terms such as “COVID-19,” “digital transformation,” and “flexible work,” indicating the literature’s response to recent global disruptions and the future of sustainable workforce strategies.

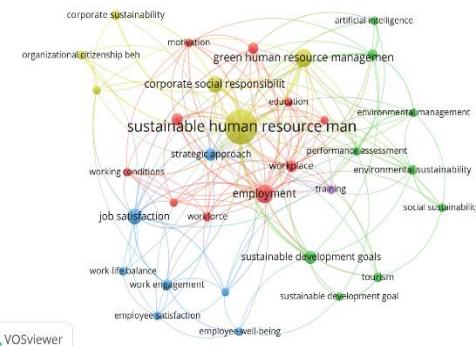


Figure 3. Keyword Co-Occurrence Map in Sustainable HRM Literature

Source: VOSviewer visualization based on Scopus data (2025)

This network reveals how Sustainable HRM has evolved from foundational concepts of green and responsible HRM into a multifaceted research field that addresses environmental, social, strategic, and digital transformations. The density of keywords and interconnections between clusters suggest increasing thematic complexity and a trend toward interdisciplinary integration.

These findings confirm earlier studies [6], [9] that called for greater attention to sustainability dimensions in HRM. The keyword analysis also reinforces the idea that HRM is central to embedding sustainability across all levels of the organization from employee experience to corporate governance.

5. Overlay Visualization

The overlay visualization analysis illustrates the temporal evolution of keywords in Sustainable HRM research. Using VOSviewer’s overlay mapping function, this visualization assigns a color gradient to keywords based on their average publication year, thereby providing insights into the

chronological emergence and diffusion of themes across time.

Figure 4 presents an overlay map that highlights a transition in research focus over the past two decades. Early studies, represented in blue and green hues, centered around foundational terms such as “sustainable HRM,” “green HRM,” and “corporate social responsibility.” These keywords dominated the literature from 2005 to 2015, reflecting a conceptual emphasis on aligning HRM practices with environmental and ethical concerns.

In contrast, keywords appearing in yellow shades indicating more recent prominence include “digital transformation,” “remote work,” “COVID-19,” “employee resilience,” and “sustainable performance.” These terms signal a shift in the field toward addressing global crises, technological disruptions, and long-term workforce sustainability. Notably, the emergence of these keywords after 2020 suggests a rapid academic response to the pandemic and its implications for HRM strategies.

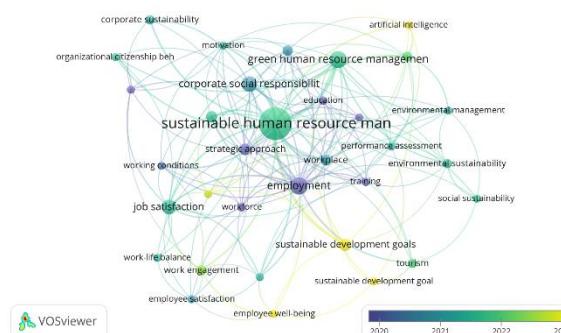


Figure 4. Overlay Visualization of Keyword Evolution in Sustainable HRM Literature
Source: VOSviewer visualization based on Scopus data (2025)

The temporal shift in thematic emphasis underscores the dynamic nature of Sustainable HRM as a research domain. It confirms the field's responsiveness to real-world events and its expanding scope beyond traditional environmental and social dimensions. The

presence of keywords related to digitalization, employee adaptability, and organizational resilience suggests that future research will increasingly explore how HRM can serve as a lever for sustainability in volatile and uncertain environments.

These findings are consistent with the arguments presented by Piwowar-Sulej [10], [11], who advocate for the inclusion of digital capabilities and workforce flexibility as critical elements of Sustainable HRM in the post-pandemic era.

Conclusion

This study provides a comprehensive bibliometric analysis of the Sustainable Human Resource Management (Sustainable HRM) literature based on 229 articles indexed in the Scopus database. Through co-authorship mapping, country collaboration analysis, keyword co-occurrence, and overlay visualization, the research uncovers critical patterns in the intellectual, geographic, and thematic evolution of the field.

The findings reveal a growing global interest in Sustainable HRM, with prominent contributions from the United Kingdom, the United States, and India. The author co-authorship network highlights the central role of figures such as Jabbour CJC in shaping theoretical development and fostering collaboration. Keyword analysis identifies key thematic clusters, including green HRM, CSR, employee well-being, strategic alignment, and post-pandemic workforce issues. The overlay visualization further demonstrates a progressive shift in research focus from foundational environmental concerns to recent challenges such as digital transformation, remote work, and employee resilience.

This study contributes to the literature by mapping the structure and trajectory of Sustainable HRM research over time. It highlights underexplored themes and emerging opportunities for future inquiry, particularly in expanding inclusivity and interdisciplinary

integration. Moreover, the analysis affirms that HRM plays a pivotal role in embedding sustainability into organizational strategy, governance, and culture.

In light of these insights, researchers are encouraged to further examine Sustainable HRM practices within diverse regional and sectoral contexts. Greater attention should also be directed toward the implications of technological advancements, labor precarity, and environmental uncertainty on sustainable workforce strategies. Practitioners, meanwhile, can benefit from the findings by aligning HR policies with long-term sustainability goals, thereby fostering not only organizational resilience but also ethical and responsible employment practices.

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