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THE CONCEPT OF GREEN HUMAN RESOURCE MANAGEMENT IN A SYSTEMATIC LITERATURE REVIEW

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Purpose: The purpose of this article is to classify scientific research on the concept of green HRM and to identify some emerging directions for future research.

Design/methodology/approach: A systematic literature review was conducted based on a bibliometric analysis of the Scopus database. The research process was carried out according to a methodology consisting of six stages. The research query included TITLE-ABS-KEY ("green HRM" OR "green HR" OR "green human resource management"). 340 publication records were qualified for the analysis.

Findings: Based on the bibliometric analysis, five research areas were identified: Sustainable HR and environmental management; Sustainable HRM practices and green leadership; Environmental values of green practices; Advancing green citizenship and innovation; Integration of environmental concerns in HRM for sustainable performance. New areas of research that appear in the literature concern the issues of green innovation, green economy, environmental values, pro-environmental behavior, business development, sustainable performance and leadership.

Research limitations/implications: Although this study contributes to the literature on the development of HRM concepts, it has some weaknesses that should be noted. These may result from the limitation to the Scopus database and the omission of e.g. gray literature. But also the need to limit the publication to a certain number of characters, so the authors gave up some analyzes (keyword maps or the most popular research methods).

Originality/value: This study of systematic literature review presents a comprehensive overview and evolution of the concept of green HRM. The dominant countries, influential authors, research units and journals were indicated. Identifying the most frequently cited articles and the thematic clusters can help researchers and practitioners design their future research and implementation plans.

Keywords: green HRM, Green Human Resource Management, sustainability, green leadership, green practices.

Category of the paper: Systematic literature review.

1. Introduction

The increasing importance of sustainable development and responsible management of natural resources to take into account the well-being of future generations emphasizes the importance of environmental aspects. The emergence of various environmental standards, directives and legal provisions in the field of environmental protection obliged enterprises to implement pro-ecological practices in individual areas of activity, including HR processes. The result is the emergence of the concept of green human resources management (green HRM, GHRM), which is based on principles and practices aimed at encouraging employees to engage in ecological behavior at work, which translates into the environmental effectiveness of an enterprise, as well as extending these practices to private life.

Sustainable environmental development and greening of organizations have become the agenda of the 21st century, and as a result, green HRM is emerging as a new direction of research (Das, Singh, 2016, pp. 227-236; Verma, 2015, pp. 39-44; Jackson et al., 2011).

2. Theoretical foundations of the concept of green HRM

The concept of green HRM focuses on the development of an organization taking into account aspects of its impact on the natural environment. The aim of green HRM is to disseminate among employees certain behaviors that increase the ecological effectiveness of an organization and translate into pro-ecological activities in private life (Muster, Schrader, 2011, pp. 140-156). Employees of the organization thus acquire ecological habits for the benefit of the individual, the society, the natural environment and business (Opatha, Arulrajah, 2014, pp. 101-112).

In the literature on the subject, Wehrmeyer is indicated as one of the creators of the concept of GHRM. This author claimed that green HRM is the use of HRM policy to promote environmental balance factors and sustainable use of resources in an organization (Urbaniak, 2017, p. 13). Ackerman defined GHRM as a human resource management practice which aims to promote behaviors among employees that translate into increased ecological efficiency of the enterprise as a whole (Ackermann, 2017, pp. 22-23).

The literature on the subject presents five components of the concept of green HR (Różańska-Bińczyk et al., 2020, pp. 80-82):

- green human resources planning: including environmental protection activities into job descriptions, introducing HRM procedures that take into account ecological aspects;
- green recruitment of employees: indicating green competences as one of the requirements for each position, paying special attention in the recruitment process and further selection of candidates to their sense of the importance of pro-ecological behavior and previous involvement in activities aimed at protecting the environment;
- green development of employees: educating employees in the field of environmental protection in order to increase the ecological efficiency of an organization thanks to a greater awareness of employees in this area;
- green motivation of employees: employees' actions to protect the natural environment are appreciated and rewarded by their supervisors using pay and non-pay motivators;
- green management of employee performance: periodic employee evaluation takes into account ecological criteria.

It is clear that green HRM is a complex process that accompanies personnel management through its individual stages, thus making it possible to achieve wide-ranging effects. The goals of green HRM include motivating and encouraging employees to implement green practices and activities for the sustainable development of an organization (Khurshid, Darzi, 2016, pp. 19-21). Green HRM is a component of sustainable HRM (Bombiak, Marciniuk-Kluska, 2019, pp. 1-28), which affects the sustainable development of an organization as a whole, aimed at maintaining economic, social and environmental balance (Peterson, 2022, pp. 259-293). The assumption of green economy is to have a positive impact on the level and quality of life of society and to limit the negative ecological effects resulting from human economic activity (Szyja, 2015, pp. 21-38), focusing on reducing the consumption of natural resources, minimizing the generated waste and greenhouse gases and counteracting social inequalities (Ryszawska, 2013, pp. 26-37), which is related to the premises guiding the practice of GHRM.

Green HRM is interpreted as global concern for the natural environment, related to the development of environmental standards that create the need for enterprises to adopt formal strategies and programs under which the ecological awareness of employees is strengthened (Kar, Praharaj, 2020, pp. 46-56). It can be concluded that the development of the concept of green HRM is related to the emergence of increasing challenges regarding the protection of the natural environment, and the sustainable development of organizations has become a strategic and ethical part of the obligations of enterprises (Zacher et al., 2023, pp. 465-494). Restrictions in the area of care for the natural environment, such as the emergence of international standards, directives and legal provisions, as well as social pressure resulting from the increasing awareness of people as to the importance of pro-ecological activities, have contributed to the development of green HRM (Szczepańska, Kosiorek, 2022, pp. 19-28).

3. Methodology

The article uses the process of a systematic literature review, which enables the identification of the current state and development trends in the researched scientific area. A systematic literature review is characterized by complexity and comprehensive identification, assessment and synthesis of scientific publications on a given topic (Lenart-Gansiniec, 2021, p. 11; Klimas et al., 2020, pp. 39-52; Bornmann, Haunschild, 2017, pp. 1857-1859; Booth, Sutton, Papaioannou, 2016, p. 2; Keathley-Herring, Van Aken, 2016, pp. 927-951). A systematic literature review aims to reduce bias and provide access to the author's procedures in their research by detailing the steps taken to obtain a sample of the reviewed literature (Rollnik-Sadowska, 2023, pp. 1-21; Williams et al., 2021, pp. 521-533; Mazur, Orłowska, 2018, pp. 235-251; Petticrew, Roberts, 2012, p. 146). Operating in accordance with strict standards contributes to obtaining reliable results and increases the transparency of research (Adams et al., 2017).

Systematic literature reviews are becoming an increasingly popular method of synthesizing results, being called the "gold standard" (Donthu, Kumar, Pattnaik, Lim, 2021, pp. 834-865; Boland, Cherry, Dickson, 2017, p. 7) or "new normality" (Hiebl, 2021, pp. 1-33) in research processes in the area of management.

Considering the above, the aim of the article was to classify scientific research on green HRM, as well as to identify emerging directions for future research.

In the context of a systematic literature review, two research questions were formulated:

- Q1. What is the current state of research on the concept of green HRM?
- Q2. What are the directions for future research on the concept of green HRM?

A systematic literature review can be carried out using various procedures, in particular in terms of the number of stages implemented (Lenart-Gansiniec, 2021). In this article, the research process was carried out according to a methodology consisting of six separate stages preceded by a justification of the need, a formulation of the research goal and research problems (Czakon, 2011, pp. 57-61). These stages included: (I) selection of a bibliographic database, (II) selection of keywords, (III) criteria for narrowing the search for publications, and (IV) analysis of selected publications. Then (V) research areas were identified and (VI) thematic clusters were defined (Szpilko, Naharro, Lăzăroiu, Nica, de la Torre Gallegos, 2023, pp. 54-75). Figure 1 presents the operationalization of the research process using the bibliometric analysis method used in this article.

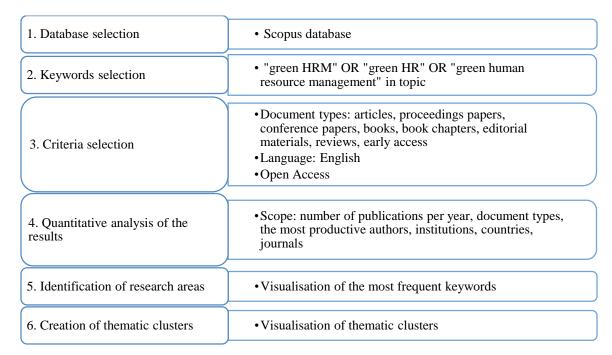


Figure 1. Bibliometric analysis methodology.

Source: author's own study.

At the initial stage, a bibliographic database was selected. Scopus was selected as the world's largest database of abstracts and citations, providing access to articles published in approximately 22,000 journals, covering over 91 million records (Scopus). The database is characterized by a wide thematic scope covering various fields and high quality of the collected resources, including: articles, books and conference materials (Mathushan, Gamage, Wachissara, 2023, pp. 1-29; Ejdys, Szpilko, 2022, pp. 8-38; Baas et al., 2020, pp. 1-10; Barkun, Rollnik-Sadowska, Glińska, 2020, pp. 104-115; Schotten et al., 2017, pp. 31-58).

Then, the researchers selected the keywords: "green HRM" along with similar terms according to Boole's logic (Purssell, McCrae, 2020). In the first and second attempts, the search included publications containing these phrases throughout the document, while the third attempt included titles, abstracts and keywords.

Eligibility criteria were used to narrow the search. The search was limited to publications: a) with an open access; b) in English only; c) including: articles, conference materials, books, book chapters, reviews, editorials, early access publications; excluded were: withdrawn publications, conference reviews, short surveys, notes, errata and letters. The search results are detailed in Figure 2.

Stage	Scopus		
First search			
Research query	All fields (green HRM OR green HRM)		
Number of articles before inclusion criteria	476 687		
Number of articles after inclusion criteria	214 780		

Second search	
Research query	All fields ("green HRM" OR "green HR" OR "green
	human resource management")
Number of articles before inclusion criteria	6589
Number of articles after inclusion criteria	2836

Third search	
Research query	TITLE-ABS-KEY ("green HRM" OR "green HR" OR
	"green human resource management")
Number of articles before inclusion criteria	876
Number of articles after inclusion criteria	340

Figure 2. Search results.

Source: own study based on the Scopus database.

By limiting the search to publications containing a specific phrase in the title, abstract and keywords, 876 records were generated. After applying the limiting criteria, 340 publications were obtained. Based on the acquired data set, various studies were carried out. Additionally, a detailed analysis of recurring keywords was carried out, which led to the creation of a map showing the co-occurrence of keywords related to the green HRM concept. VOSviewer software (version 1.6.19) was used to create a keyword co-occurrence map.

4. Research results

340 publications were included in further analyzes (Fig. 3). The first one was published in 2010, which indicates a new, "emerging" area of research. In the years 2020-2015, these were single, sporadic studies, but the growing interest of researchers in the topic of green HRM was noticed after 2018.

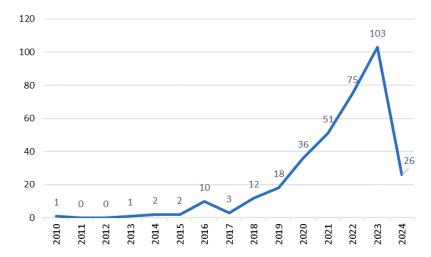


Figure 3. Number of publications containing the keywords "green HRM" OR "green HR" OR "green human resource management".

Source: author's own study based on the Scopus database (indexed until 24/03/2024).

Most of the publications in the Scopus database that contain the keywords "green HRM" and related expressions are assigned to the discipline of business, management and accounting (19%). The most popular thematic areas also included publications assigned to: environmental science (18.4%) and social sciences (17.2%). The presentation of publications according to thematic areas is presented in Figure 4.

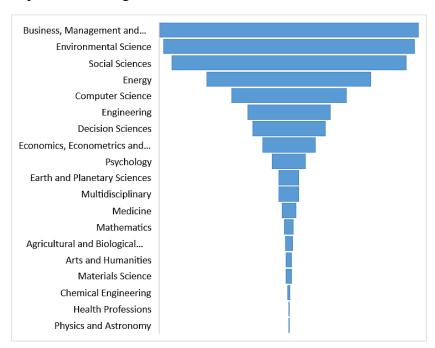


Figure 4. Number of publications containing the keywords "green HRM" OR "green HR" OR "green human resource management" by topic areas.

Source: author's own study based on the Scopus database (indexed until 24/03/2024).

The vast majority of publications were articles (87.9%). The remaining part consists of: reviews, conference papers, book chapters, as well as books and editorials. The distribution of publications by document type is shown in Figure 5.

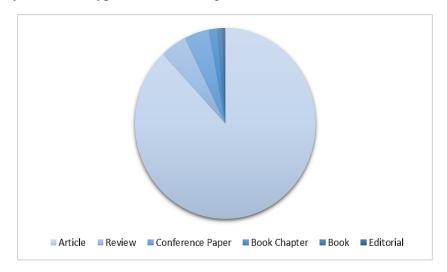


Figure 5. Type of publications containing the keywords "green HRM" OR "green HR" OR "green human resource management".

Source: author's own study based on the Scopus database (indexed until 24/03/2024).

Table 1 lists the most productive authors, countries, organizations, and journals. Most works were published by D.W.S. Renwick, while the highest h-index belongs to C.J.C. Jabbour. The dominant countries were China (72 publications), Pakistan (61) and Malaysia (50). France achieved the highest average number of citations (121.76). In the analyzed area, the Scopus database contains publications from 70 countries/territories plus unspecified ones. Taking into account the authors' affiliation, the largest number of publications was published by Nottingham Trent University (UK), King Faisal University (Republic of Chad) and Montpellier Business School (France). Sustainability Switzerland took first place in the ranking of the most productive journals (68 publications), while the Journal of Cleaner Production had the highest average number of citations (180.17).

Table 1. *Most productive authors, countries, organizations and journals*

No.	Item	NP.	[%]	Average citation count in Scopus
Auth	ors*			
1.	D.W.S. Renwick	9	2,65	15
2.	C.J. Chiappetta, Jabbour, C.J.C. Jabbour	6	1,76	71
3.	P. Paillé	5	1,47	29
4.	Z. Abbas	4	1,18	6
5.	M. Guerci	4	1,18	22
6.	N.U. Khan	4	1,18	9
7.	Q.A. Nisar	4	1,18	13
8.	M.Y. Yusliza	4	1,18	23
9.	R. Zámečník	4	1,18	5

Cont. table 1.

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	ntries		T T	
1.	China	72	21,18	30,22
2.	Pakistan	61	17,94	20,43
3.	Malaysia	50	14,71	29,74
4.	United Kingdom	43	12,65	82,05
5.	Indonesia	33	9,71	11,67
6.	Saudi Arabia	31	9,12	34,58
7.	Australia	22	6,47	54,59
8.	France	21	6,18	121,76
9.	India	21	6,18	6,24
10.	Turkey	16	4,71	8,88
Orga	nnisations			
1.	Nottingham Trent University	8	2,36	27
2.	King Faisal University	8	2,36	15,13
3.	Montpellier Business School	8	2,36	135,88
4.	WU Vienna University of Economics	7	2,06	63
	and Business	/		
5.	Universiti Sains Malaysia	7	2,06	96,14
6.	Univerzita Tomáse Bati ve Zlině	7	2,06	55
7.	The Superior University, Lahore	7	2,06	30,86
Jour	nals			
1.	Sustainability Switzerland	68	20	23,62
2.	Frontiers in Psychology	14	4,12	7
3.	Journal of Cleaner Production	12	3,53	180,17
4.	Business Strategy and the Environment	11	3,24	79,18
5.	International Journal of Sustainable	11	3,24	3,27
	Development and Planning			
6.	Cogent Business and Management	9	2,65	52,44
7.	Frontiers in Environmental Science	8	2,36	10,63
8.	Heliyon	8	2,36	1,63
9.	Uncertain Supply Chain Management	8	2,36	4,88

Note. NP — number of publications, [%] — percentage of the total number of publications (340), * – for authors the average citation count was calculated as an h-index.

Source: author's own study based on the Scopus database.

Table 2 presents an overview of the most frequently cited articles. The purpose of the research and the research methods used were taken into account.

Table 2. *Most productive authors, countries, organizations and journals*

No	Authors	Publication title	Journal	No. of	The research objective/research
				citations	method
1.	D.W.	Green Human Resource	Journal of	1010	RO: categorizing the existing literature
	Renwick,	Management: A Review	Management		based on the theory of abilities,
	T. Redman,	and Research Agenda	Reviews		motivation and opportunities (AMO),
	S. Maguire				showing the role that green HRM
	(2013)				processes play in the practice of people
					management;
					RM: a systematic review of literature
					on environmental management (EM)
					and human resource management
					(HRM).

Cont. table 2.

Cont.	table 2.				
2.	S.K. Singh et al. (2020)	Green innovation and environmental performance: The role of green transformational leadership and green human resource management	Technological Forecasting and Social Change	833	RO: examining how green HRM influences the links between green transformational leadership, green innovation, and environmental performance; RM: survey among 309 small and medium-sized enterprises (SMEs) in the manufacturing sector.
3.	C.J.C. Jabbour, A.B.L. de Sousa Jabbour (2016)	Green Human Resource Man agement and Green Supply Chain Management: Linking two emerging agendas	Journal of Cleaner Production	458	RO: developing a synergistic and integrative framework for the relationship between green HRM and green supply chain management (GSCM) and proposing a research agenda on this integration; RM: The study is conceptual in nature.
4.	G. Tang et al. (2018)	Green human resource management practices: scale development and validity	Asia Pacific Journal of Human Resources	401	RO: proposal and validation of an instrument for measuring green HRM; RM: exploratory analysis (study 1) and confirmatory factor analysis (study 2).
5.	S. Roscoe et al. (2019)	Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development	Business Strategy and the Environment	392	RO: examining the relationship between green HRM practices, factors supporting green organizational culture, and the company's environmental performance; RM: survey among 204 employees of Chinese manufacturing companies.
6.	S. Ahmad (2015)	Green Human Resource Management: Policies and practices	Cogent Business and Management	296	RO: (1) providing readers with basic knowledge about green HRM; (2) presenting significant work on green HRM; (3) developing various green practices that can be applied in building a green workplace; (4) attempting to propose green initiatives for HR. RM: systematic review of the literature.
7.	S.U. Rehman et al. (2021)	Analyzing the relationship between green innovation and environmental performance in large manufacturing firms	Technological Forecasting and Social Change	290	RO: examining the relationship between green intellectual capital (GIC), green HRM, green innovation (GI) and the environmental performance of companies; RM: survey research; structural equation modeling analysis.
8.	J.Y. Yong et al. (2020)	Pathways towards sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management	Business Strategy and the Environment	286	RO: analysis of the impact of green HRM practices on the sustainable development of an organization; RM: survey research (N = 112).
9.	S.K. Singh, AN. El-Kassar (2019)	Role of big data analytics in developing sustainable capabilities	Journal of Cleaner Production	274	RO: Exploring the scope of sustainable opportunities arising from enterprise engagement arising from the integration of big data technologies, green supply chain management and green human resource management practices, and the extent to which these capabilities can enhance a broader business performance.

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10.	M. Guerci,	Translating stakeholder	International	271	RO: increasing knowledge of
	A. Longoni,	pressures into	Journal of		(1) stakeholder pressures on
	D. Luzzini	environmental	Human		environmental issues that drive
	(2016)	performance –	Resource		companies to implement green HRM
		the mediating role of	Management		practices; and (2) the distinct mediating
		green HRM Practices			role that specific green HRM practices
					play in the pressure-performance
					relationship;
					RM: survey research.

Source: author's own study based on the Scopus database.

The keyword co-occurrence option was selected for further research using the VOSviewer tool. A total of 1245 keywords were generated. A minimum occurrence of 6 was selected, as a result of which the number of keywords was limited to 82. Then, keyword filtering was used, any terms that were not internally related to the main topic of the analysis were removed (including article, survey, literature review, etc.), and the set of words was selected and systematized. The improved collection contained 73 keywords. The most common keywords included: human resource, resource management, green human resource management, sustainability, environmental management and environmental performance. They are related to the concept of green HRM, as well as to the keywords identified in five clusters (Fig. 6).

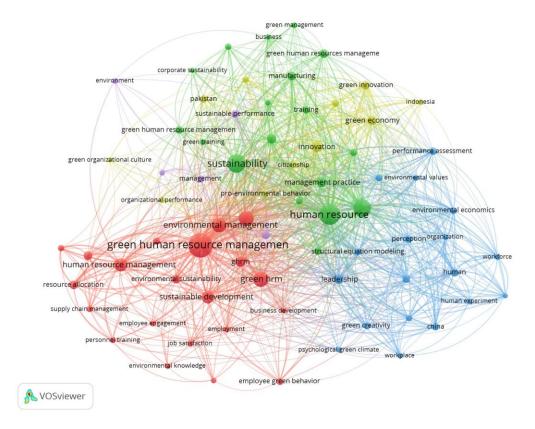


Figure 6. Keyword co-occurrence mapping for the topic "green HRM".

Source: author's own study based on Scopus, using the VOS-viewer program.

Keyword mapping shows that the concept of green HRM can carry specific attributes. As shown by the VOSviewer analysis (Tab. 3), 5 clusters can be created, the first cluster contains 21 items, the second and third - 18 items each, the fourth - 11 items, the fifth - 5 items. The keywords from the first cluster were included in 250 publications, the second cluster - 232 documents, the third - 85, the fourth - 88, the fifth - 40.

Table 3. *Most productive authors, countries, organizations and journals*

Cluster	Cluster name	Key words	Research areas	Selected publications
no.				regarding keywords*
no.	Sustainable HR and environmental management	business development, employee engagement, employee green behavior, employment, environmental knowledge, environmental management, environmental performance, environmental sustainability, ghrm, green hrm, green human resource management, green supply chain management, human resource management, job satisfaction, natural resources management, personnel training, pro-environmental	Impact of Employee Engagement on Environmental Performance. Role of HR Policies in Promoting Proenvironmental Behaviors. Influence of Environmental Awareness on	
1 (red)		behaviors, resource allocation, supply chain management, sustainable development, sustainable human resource management	Job Satisfaction. Integration of Sustainable Practices in the Supply Chain.	
2 (green)	Sustainable HRM practices and green leadership	business, corporate social responsibility, corporate sustainability, green human resource management, green human resource management practice, green management, green recruitment and selection, green training, green transformational leadership, human resource, management practice, manufacturing, organizational framework, resource management, small and medium-sized enterprise, stakeholder, sustainability, training	Assessing the effectiveness of green HRM practices in SMEs. Developing green transformational leaders. Stakeholder perspectives on green HRM.	S.E. Jackson, J. Seo (2010); C.J. Chiappetta Jabbour C.J. et al. (2019); A.A. Teixeira et al. (2016); M. Pinzone et al. (2016); D.W.S. Renwick et al. (2016); N.T. Pham et al. (2020)
3 (blue)	Environmental values of green practices	China, conservation of natural resources, environmental economics, environmental protection, environmental values, green creativity, hotel industry, human, human experiment, leadership, organization, perception, performance assessment, psychological green climate, psychology, structural equation modeling, workforce, workplace	Leadership and organizational culture for environmental sustainability. Psychology of green workplace behavior.	Y.M. Yusoff et al. (2020); J. Jia et al. (2018); M. Darvishmotevali, L. Altinay (2022); S.Y. Malik et al. (2020); O.M.A. Ababneh (2021)

	Advancing	citizenship, green economy, green	Exploring the	J. Jia et al. (2018);
	green	hrm practices, green innovation,	role of	A.K. Al-Swidi et al.
	citizenship	green organizational culture,	citizenship	(2021);
	and	Indonesia, innovation, organizational	behavior in	A.M. Rawashdeh
	innovation	performance, Pakistan, pro-	green economy.	(2018); J. Aftab et al.
\$		environmental behavior,	Promoting	(2023); S.Y. Malik
4 (yellow)		spatiotemporal analysis	green	et al. (2021);
yel			organizational	A.E.E. Sobaih et al.
4 (culture.	(2020)
	Integration of	environment, green human resource,	Employee	D.W.S. Renwick et al.
	environmental	Malaysia, management, sustainable	engagement and	(2016); Y.M. Yusoff
	concerns in	performance	environmental	et al. (2020);
	HRM for		performance.	Q.A. Nisar et al.
	sustainable		Case studies of	(2021); S.Y. Malik
	performance		sustainable HR	et al. (2021);
5 (violet)			practices.	O. Fawehinmi et al.
Vio				(2020); A.M. Ghouri
.) 5				et al. (2020)

Note. The cluster names were determined using generative artificial intelligence.

Source: author's own study based on Scopus.

All clusters have differences and similarities. The first cluster includes issues related to the development of ecological awareness among employees, an optimization of the use of resources and ensuring compliance with sustainable business goals. The second cluster is thematically focused on the relation between business activities and sustainable practices, covering the principles of CSR, sustainable development and green management. Additionally, it emphasizes the key role of green training and transformational leadership in shaping organizational culture and achieving sustainable results. The third cluster emphasizes the importance of integrating environmental economics, values and leadership principles into organizational practices, while emphasizing the role of psychological factors and structural equation modeling in assessing and supporting green climate in workplaces. The fourth cluster is oriented towards interdisciplinary research on sustainable development. It focuses on integrating green HRM practices and fostering a supportive organizational culture to drive pro-environmental behavior and improve organizational performance. The fifth cluster displays terms that collectively represent the intersection of environmental sustainability principles and HRM practices, with a focus on optimizing organizational performance.

Keyword co-occurrence mapping analysis taking into account the year of publication indicates future research directions (Fig. 7).

^{*} The most frequently cited ones, but excluding the publications included in Table 2.

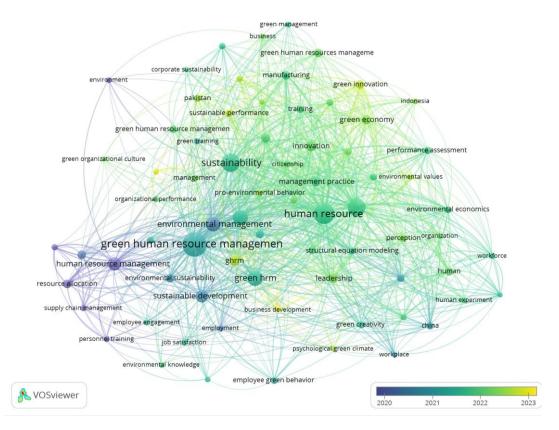


Figure 7. Mapping the co-occurrence of keywords for the topic "green HRM" taking into account the year of publication.

Source: author's own study based on Scopus, using the VOS-viewer program.

The latest keywords include: green innovations, green economy, environmental values, pro-ecological behavior, business development, sustainable results, leadership. This proves the growing interest in implementing the concept of green HRM, both for environmental and economic reasons, but also for the development of an enterprise. Green innovation as well as leadership focused on sustainable results will become increasingly important.

5. Results and limitations

This study of systematic literature review presents a comprehensive overview and evolution of the concept of green HRM. The analyzes conducted indicate that this is an emerging area of research. The dominant countries, influential authors, research units and journals were indicated. The ten most frequently cited articles were analyzed, identifying the purpose of the study and the research methods used. These articles examine sustainable approaches to HRM in the context of environmental protection. They focus on categorizing the literature, examining the impact of green HRM practices on innovation and environmental performance, and developing an integration framework between green HRM and supply chain management. Additionally, they propose measurement tools, analyze the relationship between green HRM

practices and companies' environmental performance, and take a closer look at the impact of green HRM on the sustainable development of an organization.

Based on the bibliometric analysis, five thematic clusters were identified: (1) Sustainable HR and environmental management; (2) Sustainable HRM practices and green leadership; (3) Environmental values of green practices; (4) Advancing green citizenship and innovation; (5) Integration of environmental concerns in HRM for sustainable performance. A thematic map and timeline view were presented. The latest publications indicate that the following issues will become more and more important: green innovation, green economy, environmental values, pro-environmental behavior, business development, sustainable performance and leadership.

Although this study contributes to the literature on the development of HRM concepts, it has some weaknesses that should be noted. These may result from the limitation to the Scopus database and the omission of e.g. gray literature. But also the need to limit the publication to a certain number of characters, so the authors gave up some analyzes (keyword maps or the most popular research methods).

6. Summary

Referring to the purpose of the article and the formulated research problems, it should be noted that in recent years there has been an increase in interest in the concept of green HRM in enterprises. It is clear that the concept of green HRM is not limited only to the workplace but is aimed at developing an ecological trend also in the private lives of employees.

Future research directions will focus on the issues of business development while maintaining environmental values, sustainable performance, green economy, and in the case of green enterprises, innovation and leadership promoting pro-environmental behavior.

To date, there is a lack of cross-sectoral and international comparative analyzes of green HRM implementation to analyze differences in the adoption and implementation of green HRM practices across industries and regions, identifying factors influencing successful integration and outcomes. This may therefore be a direction for further research.

References

- 1. Ababneh, O.M.A. (2021). How do green HRM practices affect employees' green behaviors? The role of employee engagement and personality attributes. *Journal of Environmental Planning and Management, Vol. 64*(7), pp. 1204-1226, doi: 10.1080/09640568.2020.1814708
- 2. Ackermann. K.F. (2017). Badania nad zielonym zarządzaniem zasobami ludzkimi. Stan według współczesnej wiedzy. *Zarządzanie Zasobami Ludzkimi, Vol.* 6, pp. 21-39.
- 3. Aftab, J., Abid, N., Cucari, N., Savastano, M. (2023). Green human resource management and environmental performance: The role of green innovation and environmental strategy in a developing country. *Business Strategy and the Environment, Vol. 32(4)*, pp. 1782-1798, doi: 10.1002/bse.3219
- 4. Ahmad, S. (2015). Green Human Resource Management: Policies and practices. *Cogent Business and Management, Vol. 2(1), art. no. 1030817*, doi: 10.1080/23311975.2015.1030817
- 5. Al-Swidi, A.K., Gelaidan, H., Saleh, R.M. (2021). The joint impact of green human resource management, leadership and organizational culture on employees' green behaviour and organisational environmental performance. *Journal of Cleaner Production*, *Vol. 316*, *art. no. 128112*, doi: 10.1016/j.jclepro.2021.128112
- 6. Baas, J., Schotten, M., Plume, A., Côté, G., Karimi, R. (2020). Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies. *Quantitative Science Studies, Vol. 1*, pp. 1-10, doi: 10.1162/qss_a_00019
- 7. Barkun, Y., Rollnik-Sadowska, E., Glińska, E. (2020). The concept of 'talent'in the labor management perspective-the bibliometric analysis of literature. *International Journal of Industrial Engineering and Management, Vol. 12*(2), pp. 104-115, doi: 10.24867/IJIEM-2020-2-257
- 8. Boland, A., Cherry, M.G., Dickson, R. (2017). Front cover image for Doing a systematic review: a student's guide (2nd ed.). Los Angeles: SAGE, p. 7.
- 9. Bombiak, E., Marciniuk-Kluska, A. (2019). Socially Responsible Human Resource Management as a Concept of Fostering Sustainable Organization-Building: Experiences of Young Polish Companies. *Sustainability, Vol. 11(4)*, pp. 1-28, doi: 10.3390/su11041044
- 10. Booth, A., Sutton, A, Papaioannou, D. (2016). Systematic Approaches to a Successful Literature Review. Chennai: SAGE, p. 2.
- 11. Bornmann, L., Haunschild, R. (2017). Quality and impact considerations in bibliometrics: a reply to Ricker. *Scientometrics, Vol. 111, No. 3*, pp. 1857-1859, doi: 10.1007/s11192-017-2373-3

- 12. Chiappetta Jabbour, C.J. et al. (2019). Who is in charge? A review and a research agenda on the 'human side' of the circular economy. *Journal of Cleaner Production*, *Vol.* 222, pp. 793-801, doi: 10.1016/j.jclepro.2019.03.038
- 13. Czakon, W. (2011). Metodyka systematycznego przeglądu literatury. *Przegląd Organizacji, No. 3 (854)*, pp. 57-61, doi: 10.33141/po.2011.03.13
- 14. Darvishmotevali, M., Altinay, L. (2022). Green HRM, environmental awareness and green behaviors: The moderating role of servant leadership. *Tourism Management, Vol.* 88, *art. no.* 104401, doi: 10.1016/j.tourman.2021.104401
- 15. Das, S.C., Singh, R.K. (2016). Green HRM and Organizational Sustainability: An Empirical Review. *Journal of Social Science*, *Vol.* 8(1&2), pp. 227-236.
- 16. Donthu, N., Kumar, S., Pattnaik, D., Lim, W.M. (2021). A bibliometric retrospection of marketing from the lens of psychology: Insights from Psychology & Marketing. *Psychology & Marketing*, *Vol.* 38(5), pp. 834-865, doi: 10.1002/mar.21472
- 17. Ejdys, J., Szpilko, D. (2022). European Green Deal research directions. a systematic literature review. *Economics and Environment, Vol.* 81(2), pp. 8-38, doi: 10.34659/eis.2022.81.2.455
- 18. Fawehinmi, O., Yusliza, M.Y., Wan Kasim, W.Z., Mohamad, Z., Sofian Abdul Halim, M.A. (2020). Exploring the Interplay of Green Human Resource Management, Employee Green Behavior, and Personal Moral Norms. *SAGE Open, Vol. 10(4)*, doi: 10.1177/2158244020982292
- 19. Ghouri, A.M., Mani, V., Khan, M.R., Khan, N.R., Srivastava, A.P. (2020). Enhancing business performance through green human resource management practices: an empirical evidence from Malaysian manufacturing industry. *International Journal of Productivity and Performance Management, Vol.* 69(8), pp. 1585-1607, doi: 10.1108/IJPPM-11-2019-0520
- 20. Guerci, M., Longoni, A., Luzzini, D. (2016). Translating stakeholder pressures into environmental performance the mediating role of green HRM Practices. *International Journal of Human Resource Management*, Vol. 27(2), pp. 262-289, doi: 10.1080/09585192.2015.1065431
- 21. Hiebl, M. (2021). Sample Selection in Systematic Literature Reviews of Management Research. *Organizational Research Methods*, pp. 1-33, doi: 10.1177/1094428120986851
- 22. Jabbour, C.J.C., De Sousa Jabbour, A.B.L. (2016). Green Human Resource Management and Green Supply Chain Management: Linking two emerging agendas. *Journal of Cleaner Production*, *Vol. 112*, pp. 1824-1833, doi: 10.1016/j.jclepro.2015.01.052
- 23. Jackson, S.E., Seo, J. (2010). The greening of strategic HRM scholarship. *Organisation Management Journal*, 7(4), pp. 278-290, doi: 10.1057/omj.2010.37
- 24. Jia, J., Liu, H., Chin, T., Hu, D. (2018). The continuous mediating effects of GHRM on employees' green passion via transformational leadership and green creativity. *Sustainability (Switzerland), Vol. 10(9), art. no. 3237*, doi: 10.3390/su10093237

- 25. Kar, D.A., Praharaj, L. (2020). Green HRM: An Innovative Practice for Organisational Sustainability. *Indo-Iranian Journal of Scientific Research*, Vol. 1(1), pp.46-56.
- 26. Keathley-Herring, H., Van Aken, E., Gonzalez-Aleu, F., Deschamps, F., Letens, G., Orlandini, P.C. (2016). Assessing the maturity of a research area: bibliometric review and proposed framework. *Scientometrics, Vol. 109, No. 2*, pp. 927-951, doi: 10.1007/s11192-016-2096-x
- 27. Khurshid, R., Darzi, M.A. (2016). Go green with green human resource management practices. *International Journal of Research in Commerce & Management, Vol.* 7(1), pp. 19-21.
- 28. Klimas, P., Stańczyk, S., Sachpazidu-Wojcicka, K. (2020). Metodyka systematycznego przeglądu literatury wyzwania selekcji a posteriori podczas tworzenia bazy literatury. In: A. Sopińska, A. Modliński (Eds.), *Współczesne zarządzanie koncepcje i wyzwania* (pp. 39-52). Warszawa: Oficyna Wydawnicza SGH.
- 29. Lenart-Gansiniec, R. (2021). Systematyczny przegląd literatury w naukach społecznych. Przewodnik dla studentów, doktorantów i nie tylko. Warszawa: Scholar.
- 30. Malik, S.Y., Cao, Y., Mughal, Y.H., Mughal, M.H., Ramayah, T. (2020). Pathways towards sustainability in organizations: Empirical evidence on the role of green human resource management practices and green intellectual capital. *Sustainability (Switzerland)*, *Vol. 12(8)*, *art. no. 3228*, doi: 10.3390/su12083228
- 31. Malik, S.Y., Mughal, Y.H., Azam, T., Cao, Y., Wan, Z., Zhu, H., Thurasamy, R. (2021). Corporate social responsibility, green human resources management, and sustainable performance: is organizational citizenship behavior towards environment the missing link? *Sustainability (Switzerland), Vol. 13(3), art. no. 1044*, pp. 1-24, doi: 10.3390/su13031044
- 32. Mathushan, P., Gamage, A.S., Wachissara, V. (2023). Human Resource Management and Artificial Intelligence: A Bibliometric Exploration. *Vidyodaya Journal of Management, Vol. 9(I)*, pp. 1-29, doi: 10.31357/vjm.v9iI.6370
- 33. Mazur, Z., Orłowska, A. (2018). Jak zaplanować i przeprowadzić systematyczny przegląd literatury. *Polskie Forum Psychologiczne*, *vol. 23*, *no. 2*, pp. 235-251, doi: 10.14656/PFP20180202
- 34. Muster, V., Schrader, U. (2011). Green Work-life Balance: A New Perspective for Green HRM. *Zeitschrift Fur Personalforschung*, *Vol.* 25, pp. 140-156, doi: 10.1177/239700221102500205
- 35. Nisar, Q.A., Haider, S., Ali, F., Jamshed, S., Ryu, K., Gill, S.S. (2021). Green human resource management practices and environmental performance in Malaysian green hotels: The role of green intellectual capital and pro-environmental behawior. *Journal of Cleaner Production, Vol. 311, art. no. 127504*, doi: 10.1016/j.jclepro.2021.127504
- 36. Opatha, H.H., Arulrajah, A.A. (2014). Green Human Resource Management: Simplified general reflections. *International Business Research*, *Vol.* 7, pp. 101-112, doi: 10.5539/ibr.v7n8p101

- 37. Peterson, K. (2022). Sustainability and Sustainable Development Research around the World. *Managing Global Transitions*, Vol. 20(3), pp. 259-293.
- 38. Petticrew, M., Roberts, H. (2012). Systematic reviews in the social sciences: A practical guide (12th ed.). New Jersey: Blackwell Publishing.
- 39. Pham, N.T., Vo Thanh, T., Tučková, Z., Thuy, V.T.N. (2020). The role of green human resource management in driving hotel's environmental performance: Interaction and mediation analysis. *International Journal of Hospitality Management, Vol.* 88, art. no. 102392, doi: 10.1016/j.ijhm.2019.102392
- 40. Pinzone, M., Guerci, M., Lettieri, E., Redman, T. (2016). Progressing in the change journey towards sustainability in healthcare: The role of 'Green' HRM. *Journal of Cleaner Production*, *Vol.* 122(3), pp. 201-211, doi: 10.1016/j.jclepro.2016.02.031
- 41. Pursell, E., McCrae, N. (2020). *How to perform a systematic literature review*. Cham: Springer.
- 42. Rawashdeh, A.M. (2018). The impact of green human resource management on organizational environmental performance in Jordanian health service organizations. *Management Science Letters*, *Vol.* 8(10), pp. 1049-1058, doi: 10.5267/j.msl.2018.7.006
- 43. Rehman, S.U., Kraus, S., Shah, S.A., Khanin, D., Mahto, R.V. (2021). Analyzing the relationship between green innovation and environmental performance in large manufacturing firms. *Technological Forecasting and Social Change, Vol. 163, art. no. 120481*, doi: 10.1016/j.techfore.2020.120481
- 44. Renwick, D.W., Redman, T., Maguire, S. (2013). Green Human Resource Management: A Review and Research Agenda. *International Journal of Management Reviews, Vol. 15(1)*, pp. 1-14, doi: 10.1111/j.1468-2370.2011.00328.x
- 45. Renwick, D.W.S., Jabbour, C.J.C., Muller-Camen, M., Redman, T., Wilkinson, A. (2016). Contemporary developments in Green (environmental) HRM scholarship. *International Journal of Human Resource Management, Vol.* 27(2), pp. 114-128, doi: 10.1080/09585192.2015.1105844
- 46. Rollnik-Sadowska, E. (2023). Labor market in sustainability transitions: a systematic literature review. *Economics and Environment, Vol. 4*(87), pp 1-31, doi: 10.34659/eis.2023.87.4.681
- 47. Roscoe, S., Subramanian, N., Jabbour, C.J.C., Chong, T. (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development. *Business Strategy and the Environment, Vol.* 28(5), pp. 737-749, doi: 10.1002/bse.2277
- 48. Różańska-Bińczyk, I., Matejun, M., Matusiak, B.E. (2020). Praktyki green HR we współczesnych przedsiębiorstwach. In: J. Cewińska, A. Krejner-Nowecka, S. Winch (Eds.), *Zarządzanie kapitałem ludzkim wyzwania* (pp. 77-91). Warszawa: Oficyna Wydawnicza SGH.

- 49. Ryszawska, B. (2013). Zielona gospodarka w dokumentach strategicznych Unii Europejskiej. *Ekonomia i Środowisko, Vol. 3(46)*, pp. 26-37.
- 50. Scopus. *Official blog for Scopus*. Retrieved from: https://blog.scopus.com/about, 20.03.2024.
- 51. Singh, S.K., El-Kassar, A.-N. (2019). Role of big data analytics in developing sustainable capabilities. *Journal of Cleaner Production*, *Vol.* 213, pp. 1264-1273, doi: 10.1016/j.jclepro.2018.12.199
- 52. Singh, S.K., Giudice, M.D., Chierici, R., Graziano, D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change, Vol. 150, art. no. 119762*, doi: 10.1016/j.techfore.2019.119762
- 53. Sobaih, A.E.E., Hasanein, A., Elshaer, I. (2020). Influences of green human resources management on environmental performance in small lodging enterprises: The role of green innovation. *Sustainability (Switzerland), Vol. 12(24), art. no. 10371*, pp. 1-19, doi: 10.3390/su122410371
- 54. Szczepańska, K., Kosiorek, D. (2022), Związki koncepcji zielonego zarządzania zasobami ludzkimi z typami kultur organizacyjnych. *Zeszyty Naukowe Wydziału Zarządzania GWSH*, *Vol. 18*, pp. 19-28, doi: 10.53259/2022.18.02
- 55. Szpilko, D., Naharro, F.J., Lăzăroiu, G., Nica, E., de la Torre Gallegos, A. (2023). Artificial intelligence in the smart city a literature review. *Engineering Management in Production and Services, Vol. 15, No. 4*, pp. 54-75, doi: 10.2478/emj-2023-0028
- 56. Szyja, P. (2015). Pojęcie, tworzenie i pomiar zielonej gospodarki. *Gospodarka w Praktyce i Teorii, Vol. 2(39)*, pp. 21-38, doi: 10.18778/1429-3730.39.02
- 57. Tang, G., Chen, Y., Jiang, Y., Paillé, P., Jia, J. (2018). Green human resource management practices: scale development and validity. *Asia Pacific Journal of Human Resources*, *Vol.* 56(1), pp. 31-55, doi: 10.1111/1744-7941.12147
- 58. Teixeira, A.A., Jabbour, C.J.C., De Sousa Jabbour, A.B.L., Latan, H., De Oliveira, J.H.C. (2016). Green training and green supply chain management: Evidence from Brazilian firms. *Journal of Cleaner Production*, *116*, pp. 170-176, doi: 10.1016/j.jclepro.2015.12.061
- 59. Urbaniak, B. (2017). Kolorowe zarządzanie zasobami ludzkimi o czym mówimy? *Zarządzanie Zasobami Ludzkimi, Vol. 6*, pp. 9-19.
- 60. Verma, R. (2015). Green HRM Requirement of 21st Century. *International Journal of Recent Research in Commerce Economics and Management, Vol.* 2(2), pp. 39-44, doi: 10.26524/jms.11.33
- 61. Williams, R.I. Jr., Clark, L.A., Clark, W.R., Raffo, D.M. (2021). Re-examining systematic literature review in management research: Additional benefits and execution protocols. *European Management Journal, Vol. 39*, pp. 521-533, doi: 10.1016/j.emj.2020.09.007
- 62. Yong, J.Y., Yusliza, M.-Y., Ramayah, T., Chiappetta Jabbour, C.J., Sehnem, S., Mani, V. (2020). Pathways towards sustainability in manufacturing organizations: Empirical

- evidence on the role of green human resource management. *Business Strategy and the Environment, Vol. 29(1)*, pp. 212-228, doi: 10.1002/bse.2359
- 63. Yusoff, Y.M., Nejati, M., Kee, D.M.H., Amran, A. (2020). Linking Green Human Resource Management Practices to Environmental Performance in Hotel Industry. *Global Business Review*, Vol. 21(3), pp. 663-680, doi: 10.1177/0972150918779294
- 64. Zacher, H., Rudolph, C.W., Ian, M.K. (2023). Employee Green Behavior as the Core of Environmentally Sustainable Organizations. *Annual Review of Organizational Psychology and Organizational Behavior, Vol. 10*, pp. 465-494, doi: 10.1146/annurev-orgpsych-120920-050421
- 65. Zibarras, L.D., Coan, P. (2015). HRM practices used to promote pro-environmental behavior: a UK survey. *International Journal of Human Resource Management*, *Vol.* 26(16), pp. 2121-2142, doi: 10.1080/09585192.2014.972429