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GREEN COMPETENCES: A REVIEW AND FUTURE RESEARCH IN THE CONTEXT OF GREEN HUMAN RESOURCE MANAGEMENT

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ABSTRACT: This paper offers a bibliometric analysis of Green Competences (GCs) within Green Human Resource Management (GHRM). With the growing recognition of business sustainability, organizations are increasingly adopting green practices in GHRM. Therefore, GCs are often redefined in research and are presented in light of specific keywords explored in this bibliometric study. The article aims to present and explore various GCs definitions and scientific interest areas. This study uses the triangulation method based on Classical and Structured Literature Review. Query characteristics were explained and provide an inspiration for other researchers interested in GCs in GHRM context and provide information about reproducibility or future research directions. The paper also outlines future research direction towards a green psychological contract, focusing on aligning employee and management commitment to environmental norms and values, and provides theoretical insights and managerial recommendations for sustainable business practices.

KEYWORDS: Green Competences, Green Human Resource Management, green jobs, green psychological contract

Introduction

In the modern labor market one can observe rapid changes related to skills and competences demanded by the employers (Kozar et al., 2022). With the growing recognition of business sustainability, organizations are increasingly adopting green practices and integrating them into their Green Human Resource Management (GHRM) strategies (Mukherji & Bhatnagar, 2022). In this context, the concept of Green Competences (GCs) has emerged as a crucial factor for business entities to effectively manage their environmental initiatives which are especially important in green jobs creation (Kozar, 2017). On the other hand, there is always qualitative and quantitative mismatch on the changing labor market (Abu-Mahfouz et al., 2023; Sulich & Sołoducho-Pelc, 2022b). To reduce this gap, in this paper, scientific literature is explored to understand the nature of GCs, their state of the art in the GHRM context and future development areas.

Another reason to undertake this research is recognition of the current state of the art. Nowadays one can observe a dynamic development of science. Numerous scientific publications are being produced which, thanks to numerous electronic databases, are widely available almost on the day of publication. This underscores the significance of periodically gathering, examining, and integrating prior research outcomes. Additionally, it is essential for review articles to amalgamate previous research in a manner that is both transparent and capable of being reproduced (Zema & Sulich, 2022). Previous literature reviews on GCs have concentrated on the profiles of specific industries, characteristics of jobs, or have been limited to particular countries (Bielińska-Dusza & Hamerska, 2021). Nevertheless, there are no comprehensive articles addressing the issues of GCs within the GHRM context, highlighting both the developed areas and those requiring further exploration. Consequently, the value of this study lies in its ability to bridge this identified gap.

The aim of this research is to explore scientific literature related to GCs in the context of GHRM. To achieve this goal the collection of the adopted method was used. First, qualitative Classical Literature Review (CLR) combined with Structured Literature Review (SLR) was used, with queries adopted as the second method. The objective of synthesizing those literature reviews was to consolidate, pinpoint, and assess research concerning a chosen topic, guided by explicitly established criteria. The subject of the research, review and the future of GCs in the GHRM context, was defined by the keywords. The object of the research was scientific literature collected in the Scopus database. The critical CLR was used to define GCs and indicate keywords which are important for the SLR queries formulation. The methods' triangulation allowed the authors to define GC and highlight their significance in the contemporary business landscape. The employment of an integrated literature review approach aims to offer three principal scholarly contributions: (I) this review will encompass the entirety of research findings on the topic of GCs, (II) research outcomes that may not align with the researcher's objectives or perspectives will not be excluded, and (III) this review's significance will be ascertainable through its replicability (Sulich & Sołoducho-Pelc, 2022a).

This paper discusses the different dimensions represented by the keywords of the explored Scopus scientific database. In this way, the components of GC are indicated, such as knowledge, skills, attitudes, abilities, awareness and behaviors that are necessary for employees to contribute to environmental sustainability. The paper also examines the role of GHRM in developing and fostering GC within organizations.

Based on the CLR and SLR, the paper identifies several areas for future research in the domain of GCs and GHRM. It suggests investigating the effectiveness of different training and development interventions in enhancing green competence, exploring the impact of green competence on organizational performance and competitive advantage, and examining the role of leadership in promoting green competence within organizations. Overall, this review contributes to the literature on GHRM and green competence by providing a comprehensive understanding of the concept and its implications. It highlights the importance of developing green competence among employees and offers insights for future research and practical implications for organizations striving to achieve environmental sustainability goals through effective HRM strategies.

This research paper consists of five parts organized in a classical arrangement. After the already-presented Introduction, a Literature review is included, divided into two sections dedicated to GHRM and GC. Another subchapter is Methodology, where two combined methods are presented in detail. In the third section, a detailed methodology is outlined, followed by the presentation of the

calculated results. The authors then discuss the research findings related to GCs in the GHRM context, dividing them into three categories: bibliometric analysis, keyword network analysis, and insights from comprehensive studies. Subsequently, the outcomes of this research are systematically presented. The paper ends with conclusions, limitations and directions for further research.

An overview of GHRM literature

The concept of sustainable development occupies an important and, in the opinion of some researchers, an even central place in contemporary scientific discourse (Du Pisani, 2006). Also in economic practice, it can be seen that more and more managers at various types of entities are choosing to implement solutions aimed at sustainable development. Some of these solutions are being implemented due to changing legal regulations aimed at the transition to a sustainable development path. Others, on the other hand, are driven by the growing environmental awareness of potential consumers. Thus, they are aimed at attracting new, or retaining existing customers who are not only looking for products/services of adequate quality, but also produced in an appropriate manner with concern for the environment. Hence, under the influence of the idea of sustainable development, various types of changes can be observed in organizations aimed at increasing their environmental responsibility (Hadi et al., 2023).

These changes are increasingly affecting the field of human resource management in organizations. As a result, one can see an increase in interest on the part of researchers in the issues of Sustainable Human Resource Management (Sustainable HRM) (Anlesinya & Susomrith, 2020; Guerci et al., 2023; Kramar, 2022) and GHRM (Ahmad, 2015; Bahuguna et al., 2023; Marrucci et al., 2021). The interrelation between the indicated concepts is addressed by researchers of the subject (Mukherji & Bhatnagar, 2022; Wielewska et al., 2023). On the one hand, it is noticeable that attempts are made to demonstrate that GHRM is one type of Sustainable HRM (Aust et al., 2020). On the other hand, it is shown that these are independent areas of research (Paulet et al., 2021). The authors of this article note that, based on the discussion so far around the concepts of Sustainable HRM and GHRM, it is impossible to put an equal sign between them.

Sustainable HRM is viewed by researchers of the subject matter in various ways (Kramar, 2014), making the concept a multi-faceted area of research. The concept is sometimes described as an approach of applying sustainable development principles to human resource management (Saifulina et al., 2020). The term is also sometimes used as an umbrella term in the literature, as it involves numerous dimensions and numerous levels of analysis undertaken (Ehnert et al., 2014; Järnlström et al., 2018). It should be noted that, within the scope of this concept, the question of the role of human resource management in promoting sustainable development of organizations is addressed (Macke & Genari, 2019). In addition, the scientific discourse emphasizes that the Sustainable HRM concept addresses much broader and more comprehensive issues than environmental outcomes (Järnlström et al., 2018), which is the main focus of the GHRM concept (Jackson et al., 2011; Úbeda-García et al., 2021). Thus, it can even be pointed out that Sustainable HRM is aimed at broader organizational goals (Mukherji & Bhatnagar, 2022).

In the GHRM concept, there is a focus on the environmental dimension of sustainability (Renwick et al., 2016). Due to the research area it covers, GHRM can be defined as aspects of human resource management in environmental management (Renwick et al., 2013; Scholz, 2019). Hence, the concept is cited by researchers of the subject matter in the context of searching for effective solutions aimed at environmental management in organizations (Ren et al., 2018). This research leads to the identification and evaluation of organizational practices that can be called environmentally responsible (Parsa et al., 2015), or simply green practices (Acquah et al., 2021; Amrutha & Geetha, 2020). These types of practices can be related to, for example, creating environmentally friendly/green working conditions (Bombiak, 2019), creating a green workforce (Shinde et al., 2021; Tariq et al., 2016), or simply green jobs (Al Hashem & Al Shaar, 2022; Antczak & Gajdos, 2023; Napathorn, 2022), shaping green competencies among employees (Anwar et al., 2020; Hailiang et al., 2023; Mehrajunnisa et al., 2022; Waqas et al., 2021), or building a green organizational culture (Al-Swidi et al., 2021; Roscoe et al., 2019) oriented towards the adopted environmental management goals. Thus, due to the research objective undertaken by this article, as well as the research area, further considerations presented in this article are presented around the issue of GHRM.

Review of the Scientific Literature on Green Competences

In the literature, one can see a significant number of researcher-created definitions of green competencies (Cabral & Dhar, 2021). They are defined, for example, as the requisite ecological knowledge, skills, and other socio-economic behaviors (Rynio & Adamiczka, 2023) individuals must possess in order to help them behave and act responsibly towards the overall well-being of their immediate environment (Subramanian et al., 2016). Opatha, on the other hand, emphasizes that green competence is knowledge and skills about greening (Opatha, 2013). In research focused on green jobs issues, Kozar indicates that green competencies of employees are the result of their knowledge and skills in applying pro-environmental solutions in the company (Kozar, 2017). Attempts to divide green competencies into natural green competencies and acquired green competencies are also noticeable (Papademetriou et al., 2023; Subramanian et al., 2016).

To date, the discourse related to the issue of green competencies is primarily oriented towards isolating their components (Cabral & Lochan Dhar, 2019), shaping key green competencies (Chen, 2008; Qu et al., 2022), as well as learning about their impact on the functioning of the organization (Mirčetić et al., 2022; Yahya et al., 2022). It can even be pointed out that green competence can be referred to as a multidimensional construct, and consequently its individual components can be distinguished. The identification of the components of green competence is not only important from a cognitive point of view, but also from a practical one. It can, in the opinion of the authors, contribute to the desired and consistent with the goals of the organization area creation at a given level of green competence. The ability to target activities in a given dimension of green competence, moreover, contributes to increasing the efficiency of activities undertaken in organizations, while simultaneously minimizing their costs. Based on a review of the literature on the subject, the following six key dimensions included in green competence can be identified:

- 1) green knowledge (Aboramadan et al., 2022; Khan et al., 2022; Rubel et al., 2020),
- 2) green skills (Bawa et al., 2022; Liu et al., 2022),
- 3) green behavior (Chaudhary, 2020; Dumont et al., 2017; Hameed et al., 2020),
- 4) green attitudes (Haq et al., 2022; Islam et al., 2020; Malik et al., 2021),
- 5) green abilities (Muisyo et al., 2022a; Muisyo et al., 2022b; Yadav & Mathew, 2022),
- 6) green awareness (Apostu & Gigauri, 2023; Farooq et al., 2022; Kim, 2022).

The above-mentioned elements of green competence are simultaneously identified in the literature as components of the green competence model (Cabral & Dhar, 2021). Hence, in the following discussion, both green competence (as a general approach) and its dimensions will be addressed.

Research methods

The focus of this research was on scholarly articles sourced from the Scopus bibliographic database. The initial step in conducting literature research involved selecting search terms and utilizing the Scopus database. The researchers chose the Scopus multidisciplinary database for its status as the most extensive collection of peer-reviewed academic literature across various research fields. Scopus is a systematically arranged digital repository of published scientific works, encompassing journal articles, conference papers, patents, books, and more. Its academic integrity is maintained through stringent criteria for indexing source titles. The information related to a bibliographic record is also collected in the database and can be analyzed with visualization tools. The authors used the following SLR strategy when formulating the below query (1):

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( TITLE ( ( ( „green knowledge” OR „green skill*” OR „green behavior” OR „green attitude*”
OR „green abilitie*” OR „green awarenes*” OR „green competenc*” ) AND ( „green human
resource management” OR „green HRM” OR ghrm ) ) ) OR ABS ( ( ( „green knowledge”
OR „green skill*” OR „green behavior” OR „green attitude*” OR „green abilitie*”
OR „green awarenes*” OR „green competenc*” ) AND ( „green human resource management”
OR „green HRM” OR ghrm ) ) ) )
```

(1)

The query was formulated on the basis of the performed and described CLR which distinguished keywords then used in SLR. Then, the SLR procedure resulted in 115 documents. First, one duplicate was removed and 114 publications indexed in the Scopus database. The subjects underwent subsequent bibliometric network and content analyses. The .csv file, obtained from the Scopus database, served as the input for these bibliometric and network analyses. VOSviewer (version 1.6.19; Centre for Science and Technology Studies, Leiden University, Leiden, The Netherlands) software was used to conduct network analysis utilizing specialized software, which yielded insights into clusters of author keywords.

As outlined in the introductory section, the authors chose to eliminate redundant analyses of the “author’s keywords” selected in VOSviewer, opting instead for a streamlined approach by utilizing the software’s automatic keyword clarification feature. The spelling standardization of the author’s keywords was based on choice of the singular form, and noticed inversions of words (‘employee green *behaviour*’ and ‘green employee *behaviour*’) were resolved, and British English was the preferred form. Authors among identified keywords full names replaced the automatically indicated abbreviations. The authors noted the incorrect creation of abbreviations in the analyzed publications, or the unnecessary use of abbreviations together with the full name. The authors also eliminated unnecessary developments of keywords (‘employee green *behaviour* at workplace’), because it is known that “employee” is an employee only at work. Authors unified other keywords, using only core keywords. The selection of keywords, both in query formulation and then in graphical analysis, can influence the obtained results of the database exploration.

The refinement is the author’s own action, as a result of the discussion undertaken and the qualitative assessment of the metadata in the form of author keywords. Author’s keywords are words subjectively defined by the author relating to the content of an article, as opposed to the indexed keywords proposed by the journal (Scopus, 2022). By analyzing the author’s keywords, the author’s awareness and reliability in defining the content of the article correctly were examined.

The selection of the 5 minimum co-occurring author’s keywords was made for the sake of increasing the readability of the bibliometric maps. In this research, the authors decided to present the keywords co-occurring in Table 1. Next to the keywords network, the overlay analysis visualization, heat map and dynamic analysis were generated in VOSviewer and presented in the next section. The choice of the number of keywords co-occurrences determines the result obtained in its graphical presentation and bibliometric map clarity, as suggested in newest publications (Zema & Sulich, 2022).

Results of the research

In this study, the literature review is conducted using VOSviewer software, employing co-occurrence analysis through three distinct bibliometric maps to pinpoint key developments in the field of GCs. The formulated query results can be analyzed online in the Scopus database. The Scopus search engine offers more refined queries. Downloaded results of the query were analyzed in the VOSviewer software in the form of different bibliometric maps. Figure 1 displays the graphical outcomes of the query utilized for Scopus exploration. In this figure, instances of author keywords appearing together at least five times are depicted as nodes within a multicolored network. This minimum number of co-occurrences was set for all bibliometric maps presented in this research. This network is composed of the 5 subnetworks, which gather keywords in clusters listed in Table 1. In Figure 1, the nodes are interconnected by network edges, which symbolize the shared domains of publication as indicated by the keywords. These clusters are distinctively identified by the VOSviewer program.

The clusters identified correspond to the diverse scientific interests of the authors of the analyzed publications. First is the red cluster, related to the “green human resources management practices” outcomes, as indicated by the author keywords “environmental performance”, “green innovation” and “green creativity”. The second cluster, highlighted in green, pertains to psychological aspects of employment expressed by the keywords “green behavior”, “green commitment”, “green knowledge” and “green training and development”. In Figure 1 there is also a third, blue cluster with 3 author keywords: “environmental management”, “pro-environmental behavior” and “sustainability”. Fourth yellow cluster in Figure 1 and Table 1 revolve around “individual green values” and envi-

ronmental citizenship. The last cluster, colored in purple, consists of author keywords “employee green behavior”, “green human resource management” and “sustainable development”.

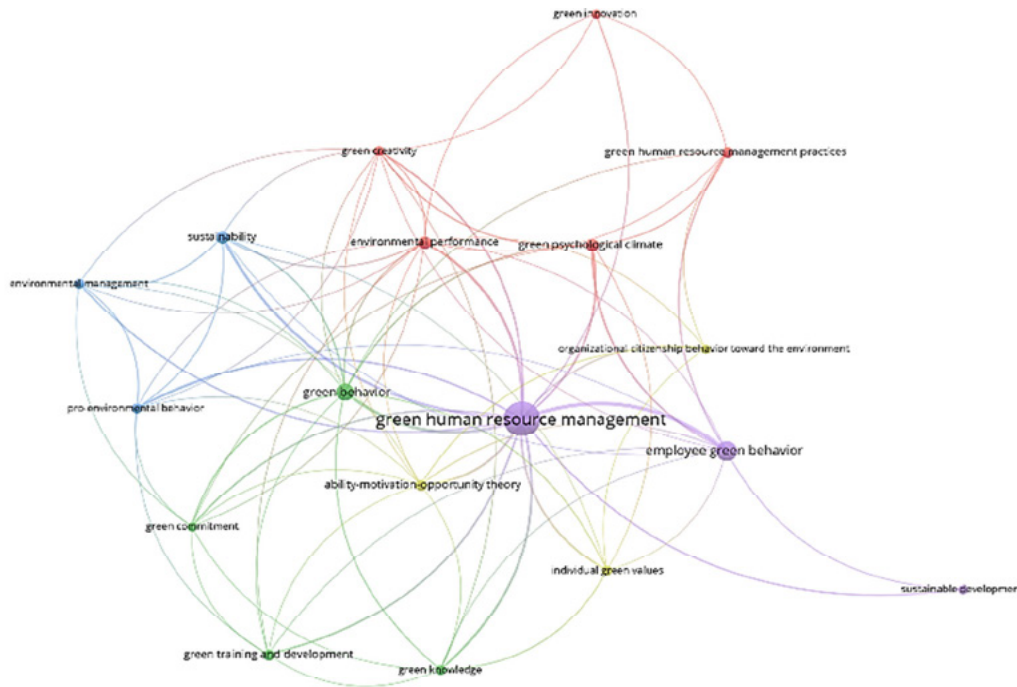


Figure 1. Author keywords co-occurrence analysis

Source: authors' elaboration performed in the VOSviewer (version 1.6.19).

In Table 1, author keywords are delineated by semicolons and presented in lowercase, regardless of their original format. Keywords co-occurrences are indicated in the parentheses, after each keyword in Table 1. The sequencing of clusters in Table 1 is determined by the quantity of keywords identified by the VOSviewer software. The red cluster has the highest number of keywords while the purple cluster has the smallest number of co-occurring author keywords. The order of the listed keywords in each cluster in Table 1, in each row, is alphabetical and is a result of the VOSviewer software calculations.

Table 1. Author keywords co-occurrences presented in Figures 1, 2 and 3

Cluster	Color	Keywords
1	Red	environmental performance (O = 11, L = 13, TLS = 25); green creativity (O = 7, L = 11, TLS = 18); green human resource management practices (O = 8, L = 6, TLS = 9); green innovation (O = 5, L = 4, TLS = 5); green psychological climate (O = 11, L = 7, TLS = 21)
2	Green	green behavior (O = 19, L = 11, TLS = 34); green commitment (O = 5, L = 9, TLS = 14); green knowledge (O = 7, L = 8, TLS = 16); green training and development (O = 8, L = 8, TLS = 12)
3	Blue	environmental management (O = 6, L = 8, TLS = 13); pro-environmental behavior (O = 6, L = 9, TLS = 15); sustainability (O = 11, L = 8, TLS = 22)
4	Yellow	ability-motivation-opportunity theory (O = 8, L = 10, TLS = 18); individual green values (O = 6, L = 7, TLS = 13); organizational citizenship behavior toward the environment (O = 5, L = 5, TLS = 8)
5	Purple	employee green behavior (O = 24, L = 12, TLS = 38); green human resource management (O = 75, L = 16, TLS = 111); sustainable development (O = 5, L = 2, TLS = 6)

Symbols: O = number of occurrences, L = number of links, TLS = total link strength calculated in VOSviewer.

Source: authors' work based on VOSviewer (version 1.6.19).

Author keywords presented in Figure 1 and Table 1, represented by the interconnected clusters, were analyzed in Figure 2 in terms of their trends. The keywords presented in Table 1 are partially related to the green psychological contract, although there is no such keyword disguised by the VOSviewer software. The overlay visualization map highlights the keywords that were central to the publications analyzed between 2020 and 2022. This figure also shows the evolution of author keywords over time, including those that remain prevalent. The years are denoted by different color gradients, with blue, green, and yellow representing the topics explored during these years. Darker shades indicate earlier publications, while lighter shades denote more recent ones.

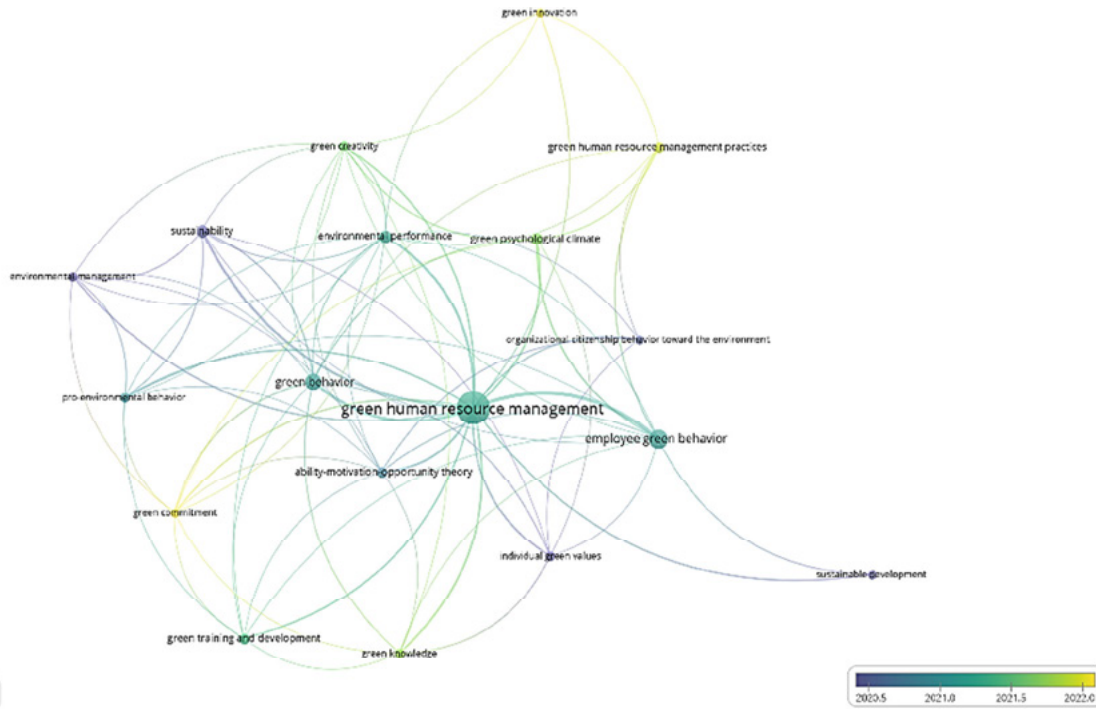


Figure 2. Author keywords overlay bibliometric map analysis

Source: authors' work based on VOSviewer (version 1.6.19).

In Figure 2 there are the same keywords as presented in Table 1. The map reveals a distinct transition from foundational topics (dark blue), like “sustainability”, to more recent concepts represented by “employee green behavior” and “green psychological climate” (green and light green), leading to the latest (yellow) keywords. Moreover, there are significant connections between “employee green behavior”, “green human resource management”, and “green behavior”, indicated by a broader edge between these nodes. The trend analysis offers insights into the significance of these identified keywords, with larger nodes signifying more frequent occurrences.

To assess the prominence of the keywords listed in Table 1, a density visualization is provided in Figure 3. Here, the three most frequently used keywords (appearing 19 times or more in Table 1) are displayed against a blue background in Figure 3. These three keywords form a central line of keywords with the brightest center, highlighting “green human resource management” (with 75 occurrences). On the left-hand side of this intensive yellow keyword is “green behavior” (19 occurrences) and “employee green behavior” (24). Subsequently, as those two keywords share a similar meaning and feature a substantial number of occurrences, they are associated with the specified clusters and leading keywords. Thus, the prominence of a keyword is indicative of its significance. In the map visualization shown in Figure 3, keywords with greater weight are more prominently displayed compared to those with lesser weight.

Figure 3 displays the density visualization of the outcomes achieved using VOSviewer. Similar to the network visualization, keywords in the item density visualization are denoted by their labels. Each point in Figure 3 is assigned a color that reflects the keyword density at that location, typically

ranging from blue, through green, to yellow. The density is determined by the number of items surrounding a point and the weights of those neighboring items. Points closer to yellow signify higher weights of adjacent keywords. Notably, there is a clustering of high-density keywords at the center of Figure 3.

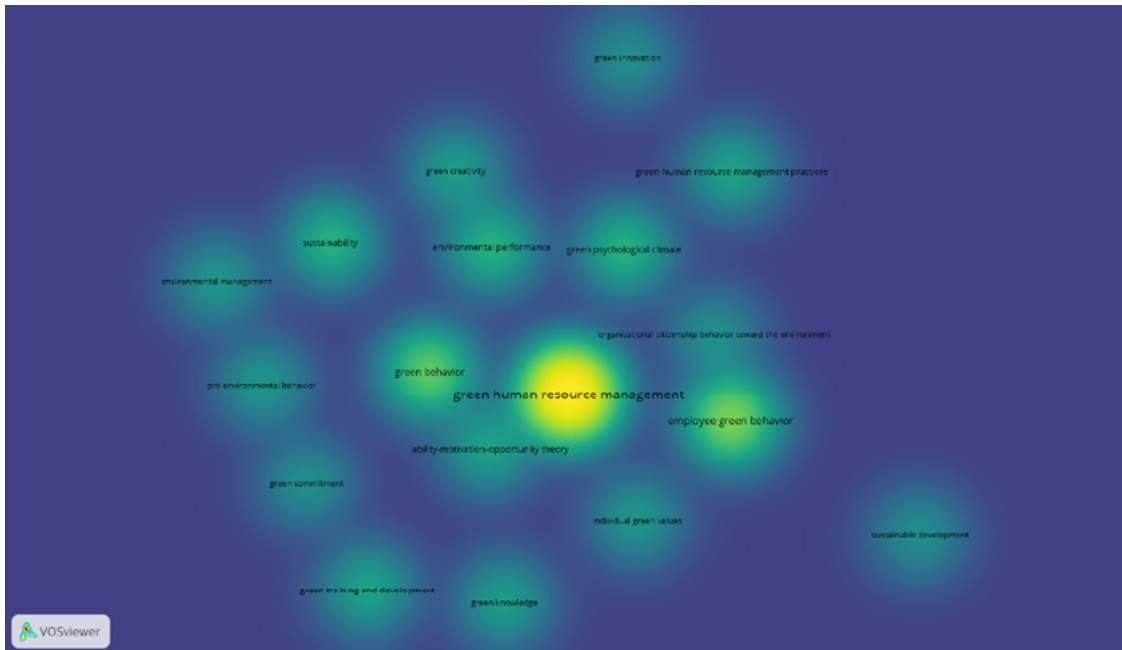


Figure 3. Items density visualization

Source: authors' work based on VOSviewer (version 1.6.19).

Figure 4 illustrates a screenshot captured when the mouse pointer hovers over a keyword in VOSviewer's main panel, where the network visualization is generated. This figure demonstrates a dynamic network analysis focused on the subnetwork related to the "green psychological climate" keyword. This particular item is linked to seven other keywords, with a combined link strength of 21 and 11 co-occurrences in the Scopus database results. Figure 4 showcases those seven keywords associated with "green psychological climate", maintaining the same color scheme for nodes and edges as observed in Figure 1. The size of each keyword's label and circle is proportional to the keyword's weight and significance, with heavier items featuring larger labels and circles. This visualization includes links between keywords related to "green psychological climate", with the colors of these links gradually changing. These links illustrate the relational distance within the subnetwork, with the "green psychological climate" keyword at the center. The spatial proximity of the nodes roughly indicates the degree of relatedness between keywords; closer nodes suggest more frequent co-occurrence in GHRM publications and stronger relational ties. Like Figure 1, Figure 4 displays a subnetwork with edges and nodes that gradually change color, mirroring the same pattern.

However, the biggest node in the subnetwork presented in Figure 4 is "green human resource management" which belongs to the fifth, purple cluster. The author keyword, "green psychological climate" has significant relationships with other keywords.

Keyword labels presented in Figure 4 are the same as presented in Table 1 and Figure 1, however this presentation is a dynamic analysis. In the subject literature a relation between GHRM practices and green psychological climate is observed. "The practices of GHRM lead to a green psychological climate, which is related to people's perception of the workplace, behavior, and individual ethics regarding environmental reliability" (Sabokro et al., 2021).

The authors recognize that research targeting green psychological climate can be a prelude to research targeting green psychological contraptions (an observed research gap). In the opinion of the authors, this is a slowly emerging direction of research aimed at increasing the effectiveness of green competence formation in organizations striving for sustainable development. Joint compliance by

employees and supervisors with pro-environmental norms and values is becoming an increasingly important challenge among organizations. These relationships, according to the authors, can occur in different directions. They can both be demands on the part of the employer towards certain environmental behaviors on the part of the employee, as well as governance on the part of employees whose pro-environmental awareness is dynamically increasing these days, therefore nudging the employer to steer the organization to be characterized by a much higher concern for the environment than before. Hence, research on the green psychological contract becomes important. This research could show what the differences between environmental expectations of these contracting parties are. In addition, based on the results obtained, organizations could improve the process of forming green competencies among employees in a conscious manner (for example, it could turn out that the organization is much slower to raise awareness than the capabilities of employees).

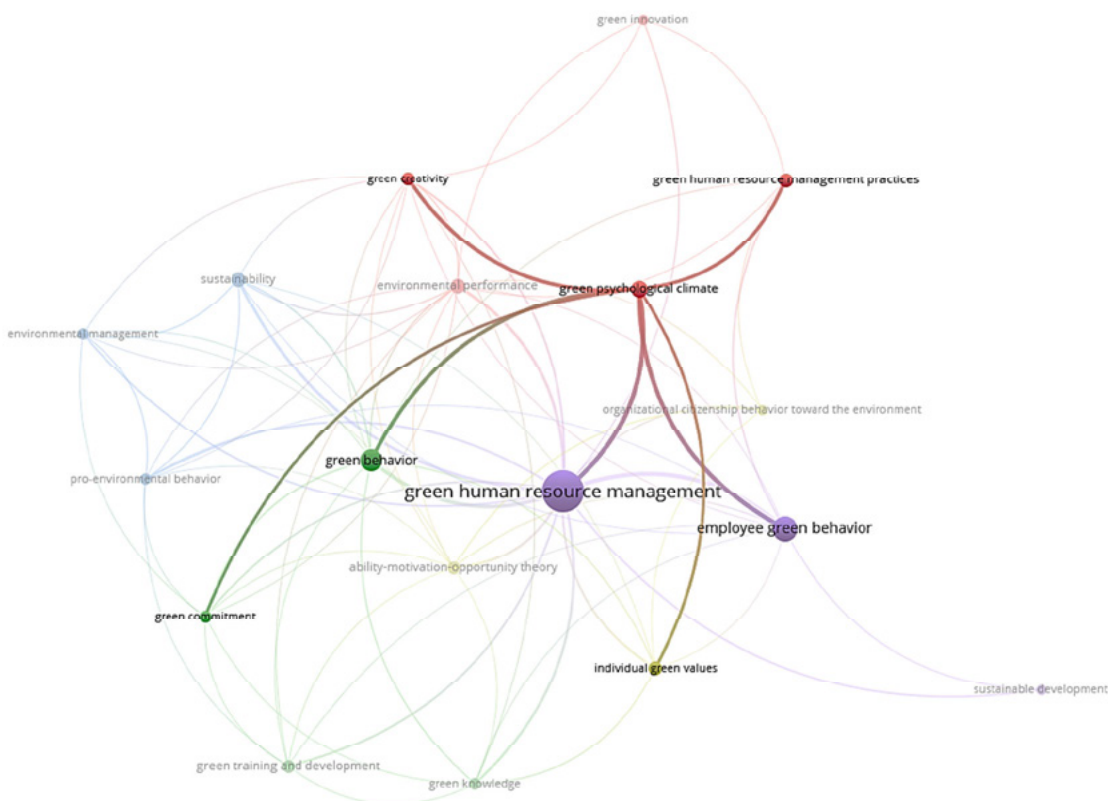


Figure 4. Relations of the examined author keyword “green psychological climate”

Source: authors' work based on VOSviewer (version 1.6.19).

Conclusions

In this paper the Scopus database was explored with the SLR method using the original query presented. The query employed in the Systematic Literature Review (SLR) was subsequently expanded using results from the VOSviewer program. Recognizing shifts in author keywords is crucial, due to their connection to the diminishing resources and the widespread environmental degradation. This paper reveals a noticeable trend shift in the examined scientific publications. It moves beyond the sole focus on human resources, encompassing managerial and organizational practices that contribute to achieving sustainability within organizations. Although this paper results do not address green self-employment, authors of this study consider green competences gained in green self-employment. Green self-employment can be identified as a future research direction in the business interaction context.

The primary contribution of this study is the development of the relationships between GCs and the psychological contract. In this context, employees are expected to possess a certain set of GCs, and employers are expected to nurture these competences. Such competences are integral to the implicit

expectations within the employer-employee relationship, particularly in organizations that prioritize sustainability and environmental responsibility. Employers might expect employees to either already possess or to develop these GCs, whereas employees may anticipate that their employers will provide the necessary training, resources, and support. This reciprocal understanding and expectation are crucial components of contemporary human resource management, especially within the framework of sustainable business practices.

One of the possible research directions is the notion of qualitative aspects of GCs shaping and methods used in this process. Another research avenue is the psychological contract. On the basis of the bibliometric analyses carried out, a future research direction – not yet defined in literature – has been discerned; the green psychological contract which will be aimed at the joint compliance of employees and superiors with pro-environmental norms and values.

Investigating the Scopus database entails notable limitations. Access to this database necessitates a standard academic subscription, posing potential constraints for those wishing to replicate this study. This research has its limitations because the choice of the number of co-occurrences determine the result obtained in its graphical presentation and bibliometric map clarity (Kozar & Sulich, 2023). In addition to accessibility, the format of data exportable from Scopus presents another limitation. Further constraints stem from the specific syntax of the query and the chosen keywords, affecting the results generated by VOSviewer. Analyzing the bibliometric maps proved challenging due to the interdisciplinary nature of the Scopus database. A limitation of this study is its sole focus on the frequency and popularity of specific keywords in scientific publications, without delving into their negative or positive connotations. For future research, it is suggested to amalgamate similar keywords and broaden the investigation to include other scientific databases, such as Web of Science.

The scholarly contribution of this paper lies in showcasing the current research found in published scientific papers, along with proposing a classification system for author keywords associated with GC and GHRM as described in these publications. This article brings the intertextuality revoking the original elements of the analyzed scientific publications. Another scientific contribution is the visualization (by means of bibliometric maps) of the researched keywords and the areas of their influence. This research article aimed to present and explore scientific literature related to the GCs in the context of GHRM. The fourth academic contribution of this study is an in-depth delineation of procedures that enable other authors to reproduce the work. Additionally, the novelty of this research lies in its combined application of a bibliometric method variation of Systematic Literature Review (SLR) and the analysis of bibliometric maps. The two methods used in this study were applied as a collage of CLR and SLR methods. The visualizations present the relationships between internal motivation and external influence by human resource management. The conducted research involves classifying scientific publications. The bibliometric density map illustrates scientific trends and informs other researchers about the overall progression or research gaps in the examined scientific field. Researched GCs can be used for considering future personal strategies and future financial plans or organizational development.

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The contribution of the authors

Conceptualization, A.S. and Ł.J.K.; literature review, A.S. and Ł.J.K.; methodology, A.S. and Ł.J.K.; formal analysis, A.S. and Ł.J.K.; writing, A.S. and Ł.J.K.; conclusions and discussion, A.S. and Ł.J.K.

The authors have read and agreed to the published version of the manuscript.

References

- Aboramadan, M., Kundi, Y. M., & Becker, A. (2022). Green human resource management in nonprofit organizations: effects on employee green behavior and the role of perceived green organizational support. *Personnel Review*, 51(7), 1788-1806. <https://doi.org/10.1108/PR-02-2021-0078>
- Abu-Mahfouz, S., Halim, M. S. A., Bahkia, A. S., Alias, N., & Tambi, A. M. (2023). Sustainable human resource management practices in organizational performance: The mediating impacts of knowledge management and work engagement. *Journal of Entrepreneurship, Management and Innovation*, 19(2), 57-97. <https://doi.org/10.7341/20231922>
- Acquah, I. S. K., Agyabeng-Mensah, Y., & Afum, E. (2021). Examining the link among green human resource management practices, green supply chain management practices and performance. *Benchmarking*, 28(1), 267-290. <https://doi.org/10.1108/BIJ-05-2020-0205>
- Ahmad, S. (2015). Green Human Resource Management: Policies and practices. *Cogent Business and Management*, 2(1), 1030817. <https://doi.org/10.1080/23311975.2015.1030817>
- Al Hashem, R. O., & Al Shaar, E. M. (2022). The Impact of Green Human Recourses Management Practices on Job Performance – The Mediating Role of Resistance to Change: An Applied Study on Jordanian Manufacturing Companies. *Jordan Journal of Business Administration*, 18(1), 145-162. <https://journals.ju.edu.jo/index.php/JJBA/article/view/27>
- 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*, 316, 128112. <https://www.semanticscholar.org/paper/The-joint-impact-of-green-human-resource-leadership-Al%E2%80%90Swidi-Gelaidan/5e071e2f0f49a844f564fcf8e-080fa6479fb10d1>
- Amrutha, V. N., & Geetha, S. N. (2020). A systematic review on green human resource management: Implications for social sustainability. *Journal of Cleaner Production*, 247, 119131. <https://doi.org/10.1016/j.jclepro.2019.119131>
- Anlesinya, A., & Susomrith, P. (2020). Sustainable human resource management: a systematic review of a developing field. *Journal of Global Responsibility*, 11(3), 295-324. <https://doi.org/10.1108/JGR-04-2019-0038>
- Antczak, E., & Gajdos, A. (2023). Key economic sectors for green job creation in Poland – an empirical analysis. *Economics and Environment*, 85(2), 68-89. <https://doi.org/10.34659/eis.2023.85.2.599>
- Anwar, N., Nik Mahmood, N. H., Yusliza, M. Y., Ramayah, T., Noor Faezah, J., & Khalid, W. (2020). Green Human Resource Management for organisational citizenship behaviour towards the environment and environmental performance on a university campus. *Journal of Cleaner Production*, 256, 120401. <https://doi.org/10.1016/j.jclepro.2020.120401>
- Apostu, S.-A., & Gigauro, I. (2023). Sustainable development and entrepreneurship in emerging countries: Are sustainable development and entrepreneurship reciprocally reinforcing? *Journal of Entrepreneurship, Management and Innovation*, 19(1), 41-77. <https://doi.org/10.7341/20231912>
- Aust, I., Matthews, B., & Muller-Camen, M. (2020). Common Good HRM: A paradigm shift in Sustainable HRM? *Human Resource Management Review*, 30(3), 100705. <https://doi.org/10.1016/j.hrmr.2019.100705>
- Bahuguna, P. C., Srivastava, R., & Tiwari, S. (2023). Two-decade journey of green human resource management research: a bibliometric analysis. *Benchmarking*, 30(2), 585-602. <https://doi.org/10.1108/BIJ-10-2021-0619>
- Bawa, R. K., Kathuria, K., & Dhiman, R. (2022). Green Human Resource Management: Proposed Conceptual Model Through Systematic Literature Review. *ECS Transactions*, 107(1), 3429-3448. <https://doi.org/10.1149/10701.3429ecst>
- Bielińska-Dusza, E., & Hamerska, M. (2021). Innovative activity of Polish enterprises – a strategic aspect. The similarity of NACE divisions. *Journal of Entrepreneurship, Management and Innovation*, 17(2), 53-98. <https://doi.org/10.7341/20211723>
- Bombiak, E. (2019). Green human resource management- the latest trend or strategic necessity? *Entrepreneurship and Sustainability Issues*, 6(4), 1647-1662. [https://doi.org/10.9770/jesi.2019.6.4\(7\)](https://doi.org/10.9770/jesi.2019.6.4(7))
- Cabral, C., & Dhar, R. L. (2021). Green competencies: insights and recommendations from a systematic literature review. *Benchmarking: An International Journal*, 28(1), 66-105. <https://doi.org/10.1108/BIJ-11-2019-0489>
- Cabral, C., & Lochan Dhar, R. (2019). Green competencies: Construct development and measurement validation. *Journal of Cleaner Production*, 235, 887-900. <https://doi.org/10.1016/j.jclepro.2019.07.014>
- Chaudhary, R. (2020). Green Human Resource Management and Employee Green Behavior: An Empirical Analysis. *Corporate Social Responsibility and Environmental Management*, 27(2), 630-641. <https://doi.org/10.1002/csr.1827>
- Chen, Y. S. (2008). The driver of green innovation and green image – Green core competence. *Journal of Business Ethics*, 81(3), 531-543. <https://doi.org/10.1007/s10551-007-9522-1>
- Du Pisani, J. A. (2006). Sustainable development – historical roots of the concept. *Environmental Sciences*, 3(2), 83-96. <https://doi.org/10.1080/15693430600688831>

- Dumont, J., Shen, J., & Deng, X. (2017). Effects of Green HRM Practices on Employee Workplace Green Behavior: The Role of Psychological Green Climate and Employee Green Values. *Human Resource Management*, 56(4), 613-627. <https://doi.org/10.1002/hrm.21792>
- Ehnert, I., Harry, W., & Zink, K. J. (2014). Sustainability and HRM: An Introduction to the Field. In I. Ehnert, W. Harry & K.J. Zink (Eds.), *CSR, Sustainability, Ethics and Governance* (pp. 3-32). Berlin: Springer Nature. https://doi.org/10.1007/978-3-642-37524-8_1
- Farooq, K., Yusliza, M. Y., Muhammad, Z., & Mat, N. H. N. (2022). Make it their Decisions, not your Directives: Exploring Required Green Competencies for Employee Ecological Behaviour. *Organizacija*, 55(2), 128-141. <https://doi.org/10.2478/orga-2022-0009>
- Guerci, M., Hauff, S., Panichella, N., & Radaelli, G. (2023). Sustainable HRM and class-based inequality. *Personnel Review*, 52(5), 1597-1613. <https://doi.org/10.1108/PR-10-2021-0772>
- Hadi, H. K., Kautsar, A., Fazlurrahman, H., & Rahman, M. F. W. (2023). Green HRM: The Link Between Environmental and Employee Performance, Moderated by Green Work Climate Perception. *International Journal of Sustainable Development and Planning*, 18(5), 1573-1580. <https://doi.org/10.18280/ijstdp.180528>
- Hailiang, Z., Chau, K. Y., & Waqas, M. (2023). Does green finance and renewable energy promote tourism for sustainable development: Empirical evidence from China. *Renewable Energy*, 207, 660-671. <https://ideas.repec.org/a/eee/renene/v207y2023icp660-671.html>
- Hameed, Z., Khan, I. U., Islam, T., Sheikh, Z., & Naeem, R. M. (2020). Do green HRM practices influence employees' environmental performance? *International Journal of Manpower*, 41(7), 1061-1079. <https://doi.org/10.1108/IJM-08-2019-0407>
- Haq, I. U., Chupradit, S., Chupradit, P. W., & Huo, C. (2022). Measuring Determinants of Environmental Performance during COVID-19: Evidence from the Healthcare Sector. *World Journal of Entrepreneurship, Management and Sustainable Development*, 18(5), 575-593. <https://doi.org/10.47556/J.WJEMSD.18.5.2022.2>
- Islam, T., Khan, M. M., Ahmed, I., & Mahmood, K. (2020). Promoting in-role and extra-role green behavior through ethical leadership: mediating role of green HRM and moderating role of individual green values. *International Journal of Manpower*, 42(6), 1102-1123. <https://doi.org/10.1108/IJM-01-2020-0036>
- Jackson, S. E., Renwick, D. W. S., Jabbour, C. J. C., & Muller-Camen, M. (2011). State-of-the-Art and Future Directions for Green Human Resource Management: Introduction to the Special Issue. *German Journal of Human Resource Management: Zeitschrift Fur Personalforschung*, 25(2), 99-116. <https://doi.org/10.1177/239700221102500203>
- Järnlström, M., Saru, E., & Vanhala, S. (2018). Sustainable Human Resource Management with Salience of Stakeholders: A Top Management Perspective. *Journal of Business Ethics*, 152(3), 703-724. <https://doi.org/10.1007/s10551-016-3310-8>
- Khan, K., Shams, M. S., Khan, Q., Akbar, S., & Niazi, M. M. (2022). Relationship Among Green Human Resource Management, Green Knowledge Sharing, Green Commitment, and Green Behavior: A Moderated Mediation Model. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.924492>
- Kim, T. (2022). Assessing the Impacts of Individual and Organizational Factors on South Korea Hotels' Green Performance Using the AMO Model. *International Journal of Environmental Research and Public Health*, 19(16). <https://doi.org/10.3390/ijerph191610440>
- Kozar, Ł. (2017). Shaping the Green Competence of Employees in an Economy Aimed at Sustainable Development. *Green Human Resource Management*, 6(119), 55-67. <https://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-361bca8e-85f2-4c68-af80-c3210395c0d5>
- Kozar, Ł. J., & Sulich, A. (2023). Green Jobs in the Energy Sector. *Energies*, 16(7), 3171. <https://doi.org/10.3390/en16073171>
- Kozar, Ł. J., Matusiak, R., Padaszyńska, M., & Sulich, A. (2022). Green Jobs in the EU Renewable Energy Sector: Quantile Regression Approach. *Energies*, 15(18), 6578. <https://doi.org/10.3390/en15186578>
- Kramar, R. (2014). Beyond strategic human resource management: Is sustainable human resource management the next approach? *International Journal of Human Resource Management*, 25(8), 1069-1089. <https://doi.org/10.1080/09585192.2013.816863>
- Kramar, R. (2022). Sustainable human resource management: six defining characteristics. *Asia Pacific Journal of Human Resources*, 60(1), 146-170. <https://doi.org/10.1111/1744-7941.12321>
- Liu, J., Gao, X., Cao, Y., Mushtaq, N., Chen, J., & Wan, L. (2022). Catalytic Effect of Green Human Resource Practices on Sustainable Development Goals: Can Individual Values Moderate an Empirical Validation in a Developing Economy? *Sustainability*, 14(21), 14502. <https://doi.org/10.3390/su142114502>
- Macke, J., & Genari, D. (2019). Systematic literature review on sustainable human resource management. *Journal of Cleaner Production*, 208, 806-815. <https://doi.org/10.1016/j.jclepro.2018.10.091>
- Malik, M. S., Ali, K., Kausar, N., & Chaudhry, M. A. (2021). Enhancing Environmental Performance through Green HRM and Green Innovation: Examining the Mediating Role of Green Creativity and Moderating Role of Green Shared Vision. *Pakistan Journal of Commerce and Social Science*, 15(2), 265-285. <https://hdl.handle.net/10419/237078>

- Marrucci, L., Daddi, T., & Iraldo, F. (2021). The contribution of green human resource management to the circular economy and performance of environmental certified organisations. *Journal of Cleaner Production*, 319, 128859. <https://doi.org/10.1016/j.jclepro.2021.128859>
- Mehrajunnisa, M., Jabeen, F., Faisal, M. N., & Lange, T. (2022). The influence of green human resource management practices and employee green behavior on business performance in sustainability-focused organizations. *Journal of Environmental Planning and Management*, 66(12), 2603-2622. <https://doi.org/10.1080/09640568.2022.2074824>
- Mirčetić, V., Ivanović, T., Knežević, S., Arsić, V. B., Obradović, T., Karabašević, D., Vukotić, S., Brzaković, T., Adamović, M., Milojević, S., Milašinović, M., Mitrović, A., & Špiler, M. (2022). The Innovative Human Resource Management Framework: Impact of Green Competencies on Organisational Performance. *Sustainability*, 14(5), 2713. <https://doi.org/10.3390/su14052713>
- Muisyo, P. K., Qin, S., Ho, T. H., & Julius, M. M. (2022a). The effect of green HRM practices on green competitive advantage of manufacturing firms. *Journal of Manufacturing Technology Management*, 33(1), 22-40. <https://doi.org/10.1108/JMTM-10-2020-0388>
- Muisyo, P. K., Qin, S., Ho, T. H., Julius, M. M., & Barisoava Andriamandresy, T. (2022b). Implications of GHRM on organisational citizenship behaviour: the mediating role of enablers of green culture. *International Journal of Manpower*, 43(3), 719-741. <https://doi.org/10.1108/IJM-05-2020-0245>
- Mukherji, A., & Bhatnagar, J. (2022). Conceptualizing and theorizing green human resource management: a narrative review. *International Journal of Manpower*, 43(3), 862-888. <https://doi.org/10.1108/IJM-06-2021-0376>
- Napathorn, C. (2022). The development of green skills across firms in the institutional context of Thailand. *Asia-Pacific Journal of Business Administration*, 14(4), 539-572. <https://doi.org/10.1108/APJBA-10-2020-0370>
- Opatha, H. H. D. N. P. (2013). Green Human Resource Management A Simplified Introduction. *HR Dialogue*, 01(01), 11-21. <http://dr.lib.sjp.ac.lk/handle/123456789/3734>
- Papademetriou, C., Ragazou, K., Garefalakis, A., & Passas, I. (2023). Green Human Resource Management: Mapping the Research Trends for Sustainable and Agile Human Resources in SMEs. *Sustainability*, 15(7), 5636. <https://doi.org/10.3390/su15075636>
- Parsa, H. G., Lord, K. R., Putrevu, S., & Kreeger, J. (2015). Corporate social and environmental responsibility in services: Will consumers pay for it? *Journal of Retailing and Consumer Services*, 22, 250-260. <https://doi.org/10.1016/j.jretconser.2014.08.006>
- Paulet, R., Holland, P., & Morgan, D. (2021). A meta-review of 10 years of green human resource management: is Green HRM headed towards a roadblock or a revitalisation? *Asia Pacific Journal of Human Resources*, 59(2), 159-183. <https://doi.org/10.1111/1744-7941.12285>
- Qu, X., Khan, A., Yahya, S., Zafar, A. U., & Shahzad, M. (2022). Green core competencies to prompt green absorptive capacity and bolster green innovation: the moderating role of organization's green culture. *Journal of Environmental Planning and Management*, 65(3), 536-561. <https://doi.org/10.1080/09640568.2021.1891029>
- Ren, S., Tang, G., & E. Jackson, S. (2018). Green human resource management research in emergence: A review and future directions. *Asia Pacific Journal of Management*, 35(3), 769-803. <https://doi.org/10.1007/s10490-017-9532-1>
- 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*, 27(2), 114-128. <https://doi.org/10.1080/09585192.2015.1105844>
- Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green Human Resource Management: A Review and Research Agenda*. *International Journal of Management Reviews*, 15(1), 1-14. <https://doi.org/10.1111/j.1468-2370.2011.00328.x>
- 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*, 28(5), 737-749. <https://doi.org/10.1002/bse.2277>
- Rubel, M. R. B., Kee, D. M. H., & Rimi, N. N. (2020). The influence of green HRM practices on green service behaviors: the mediating effect of green knowledge sharing. *Employee Relations*, 43(5), 996-1015. <https://doi.org/10.1108/ER-04-2020-0163>
- Rynio, D., & Adamiczka, H. (2023). The role of rivers in creating a blue-green city economy on the example of Wrocław and Gdansk. *Economics and Environment*, 85(2), 140-153. <https://doi.org/10.34659/eis.2023.85.2.557>
- Sabokro, M., Masud, M. M., & Kayedian, A. (2021). The effect of green human resources management on corporate social responsibility, green psychological climate and employees' green behavior. *Journal of Cleaner Production*, 313, 127963. <https://doi.org/10.1016/j.jclepro.2021.127963>
- Saifulina, N., Carballo-Penela, A., & Ruzo-Sanmartín, E. (2020). Sustainable HRM and Green HRM: The Role of Green HRM in Influencing Employee Pro-environmental Behavior at Work. *Journal of Sustainability Research*, 2(3), e200026. <https://doi.org/10.20900/jsr20200026>
- Scholz, P. (2019). Green management implementation in accommodation facilities in Bulgaria. *Economics and Environment*, 68(1), 177-192. <https://doi.org/10.34659/z21z-6h85>

- Scopus. (2022). *How do Author keywords and Indexed keywords work?* https://service.elsevier.com/app/answers/detail/a_id/21730/supporthub/scopus/
- Shinde, M., Bhardwaj, A. B., & Shukla, V. K. (2021). Performance Evaluation and Impact Analysis of Green Technology-Based Organizations. *Proceedings of the 9th International Conference on Reliability, Infocom Technologies and Optimization*, Noida, India, 1-5. <https://doi.org/10.1109/ICRITO51393.2021.9596304>
- Subramanian, N., Abdulrahman, M. D., Wu, L., & Nath, P. (2016). Green competence framework: Evidence from China. *International Journal of Human Resource Management*, 27(2), 151-172. <https://doi.org/10.1080/09585192.2015.1047394>
- Sulich, A., & Sołoducho-Pelc, L. (2022a). Changes in Energy Sector Strategies: A Literature Review. *Energies*, 15(19), 7068. <https://doi.org/10.3390/en15197068>
- Sulich, A., & Sołoducho-Pelc, L. (2022b). The circular economy and the Green Jobs creation. *Environmental Science and Pollution Research*, 29(10), 14231-14247. <https://doi.org/10.1007/s11356-021-16562-y>
- Tariq, S., Jan, F. A., & Ahmad, M. S. (2016). Green employee empowerment: a systematic literature review on state-of-art in green human resource management. *Quality and Quantity*, 50(1), 237-269. <https://doi.org/10.1007/s11135-014-0146-0>
- Úbeda-García, M., Claver-Cortés, E., Marco-Lajara, B., & Zaragoza-Sáez, P. (2021). Corporate social responsibility and firm performance in the hotel industry. The mediating role of green human resource management and environmental outcomes. *Journal of Business Research*, 123, 57-69. <https://doi.org/10.1016/j.jbusres.2020.09.055>
- Waqas, M., Yahya, F., Ahmed, A., Rasool, Y., & Hongbo, L. (2021). Unlocking Employee's Green Behavior in Fertilizer Industry: The Role of Green HRM Practices and Psychological Ownership. *International Food and Agribusiness Management Review*, 24(5), 827-843. <https://doi.org/10.22434/IFAMR2020.0109>
- Wielewska, I., Kacprzak, M., Król, A., Czech, A., Zuzek, D. K., Gralak, K., & Marks-Bielska, R. (2023). Green human resource management. *Economics and Environment*, 83(4), 276-302. <https://doi.org/10.34659/eis.2022.83.4.496>
- Yadav, P., & Mathew, J. (2022). Educational Perspective & Antecedental Outcomes of Green HRM for Employee's Sustainable Behaviour. *Journal for ReAttach Therapy and Developmental Diversities*, 5(1s), 95-101. <https://jrtd.com/index.php/journal/article/view/90>
- Yahya, S., Khan, A., Farooq, M., & Irfan, M. (2022). Integrating green business strategies and green competencies to enhance green innovation: evidence from manufacturing firms of Pakistan. *Environmental Science and Pollution Research*, 29(26), 39500-39514. <https://doi.org/10.1007/s11356-021-18430-1>
- Zema, T., & Sulich, A. (2022). Models of Electricity Price Forecasting: Bibliometric Research. *Energies*, 15(15), 5642. <https://doi.org/10.3390/en15155642>

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ZIELONE KOMPETENCJE: PRZEGLĄD I KIERUNKI PRZYSZŁYCH BADAŃ W KONTEKŚCIE ZIELONEGO ZARZĄDZANIA ZASOBAMI LUDZKIMI

STRESZCZENIE: Niniejszy artykuł przedstawia analizę bibliometryczną zielonych kompetencji (GC) w ramach zielonego zarządzania zasobami ludzkimi (GHRM). Wraz z rosnącym uznaniem dla zrównoważonego rozwoju biznesu, organizacje coraz częściej stosują zielone praktyki w GHRM. Dlatego też kompetencje te są często redefiniowane w badaniach i przedstawiane w świetle konkretnych słów kluczowych badanych w tym badaniu bibliometrycznym. Artykuł ma na celu przedstawienie i zbadanie różnych definicji GC i obszarów zainteresowań naukowych. W badaniu zastosowano triangulację metod opartą na klasycznym i ustrukturyzowanym przeglądzie literatury. Charakterystyka zapytań została wyjaśniona i stanowi inspirację dla innych badaczy zainteresowanych GC w kontekście GHRM oraz dostarcza informacji na temat powtarzalności lub przyszłych kierunków badań. W artykule nakreślono również przyszły kierunek badań w kierunku zielonego kontraktu psychologicznego, koncentrując się na dostosowaniu zaangażowania pracowników i kierownictwa do norm i wartości środowiskowych, a także przedstawiono teoretyczne spostrzeżenia i zalecenia menedżerskie dotyczące zrównoważonych praktyk biznesowych.

SŁOWA KLUCZOWE: zielone kompetencje, zielone zarządzanie zasobami ludzkimi, zielone miejsca pracy, zielony kontrakt psychologiczny