

PUBLICATION TRENDS ON GREEN HUMAN RESOURCES IN INDONESIA: A BIBLIOMETRIC ANALYSIS

Lola Malihah^{1*}, Dahniar²

¹Doctoral Science Management Program, Universitas Lambung Mangkurat Banjarmasin, Indonesia

¹Institut Agama Islam Darussalam Martapura Kalimantan Selatan Indonesia

²Faculty of Economics and Business, Universitas Lambung Mangkurat Banjarmasin, Indonesia.

(lolatasya@gmail.com*)

ABSTRACT

Environmental conservation has become an important issue for the past few decades. Almost every industry has implemented environmental practices. One form of company policy in an effort to preserve the environment is to implement green human resources or environmentally friendly employees. The increasingly developing concept of greening as a form of concern for the environment, this study will observe the trend of topics related to research discussing green human resources from 2000-2023. This study uses a bibliometric approach with a total of 91 published research data. In the network analysis, it can be seen that the publication research with the theme of Green Human Resources from 2000 to 2023 contains 15 keyword items related to Green Human Resources, 4 keyword clusters with a total of 53 lines. It is marked with a red symbol, namely green behavior, green economy, job satisfaction, motivation, and the influence of green human resources. Based on the overlay visualization, the keywords environmental performance and the influence of green human resources are brightly colored keywords compared to other keywords. This shows the novelty of the topic of Green Human Resources in Indonesia in 2023. Based on the visualization results, the keywords management and Green human resource management are keywords that are often researched by researchers, while keywords covering job satisfaction, motivation, and the influence of green human resources related to the topic of Green Human Resources appear to be dimmer than other keywords. The development of research trends related to green human resources is growing, especially in the last 5 years. Based on bibliometric analysis, the keywords management and green human resources are keywords that are often studied by researchers. Keywords job satisfaction, motivation, and the influence of green human resources are topics that have the opportunity for further research.

Keywords: Bibliometrics, Green Human Resources, Sustainable Development.

1. INTRODUCTION

The environmental crisis and climate change have forced companies and organizations around the world to consider their impact on the environment and society (Heryana and Dadi 2024). One of the challenges in efforts to overcome the impacts of environmental damage, climate change and support sustainable development is the lack of public awareness of the importance of environmental management and preservation (Malihah 2022). Therefore, various sustainable development strategies for environmental sustainability are developing rapidly in various companies in response to challenges and natural disasters caused by ecosystem damage, environmental pollution and climate change (Syafari 2022). One step that can be taken by the company is to implement Green Human Resource Management (GHRM) or environmentally oriented human resource management in the company environment. The

impact of environmental damage has serious implications for environmental sustainability, so companies must immediately commit to taking action and implementing practices that support environmental preservation and protection (Mansyur, et. al. 2023). Corporate social responsibility programs towards the environment are one of the company's efforts to be visible in improving the environment (Said et al. 2022).

In a company, human resources are one of the driving indicators in achieving a company's goals. In the context of long-term sustainability that implements the green concept, companies must prepare employees who have environmentally friendly behaviour with concern for the company's environment that focuses on the behaviour of company employees based on efforts to reduce negative impacts on the environment in carrying out services and operational activities. It is hoped that implementing the green concept will increase the efficiency of resource use, reduce waste, and develop more environmentally friendly products (Antika & Tatik 2024) Along with the company's commitment to carrying the concept of sustainability to participate in maintaining the environmental ecosystem, of course human resources as the driving force of the company must also apply an environmentally friendly concept in its operational activities so that this study will describe the development of research topic trends in publications related to green human resources in a period of 23 years using bibliometric analysis.

2. LITERATURE REVIEW

Green Human Resources is a company policy that aims to make employees of the organization aware of environmental sustainability. This is implemented in the form of policies, practices, and systems that make employees of the organization become environmentally friendly individuals for the benefit of individuals, society, the natural environment, and most importantly for business continuity. Green human resource policies provide a concept that all HR management activities must be directed at actions to preserve nature, protect ecosystems, and minimize pollution and damage to nature (Syaefuddina, et. al. 2022). The implementation of green human resources can help organizations to improve corporate image, reduce the impact of environmental damage and implement sustainable development (Ren and Miao 2018).

There are 5 indicators for measuring Green Human Resources in a company:

1. Green Recruitment, is the process of selecting environmentally conscious employees in the organization who are ready to minimize the negative impact of their activities on the environment to increase organizational effectiveness.
2. Green training and development is a practice that focuses on improving employees' ability to understand green/environmental issues and helping them learn various ways to save energy and reduce waste within the company/industry.

3. Green performance management involves a system of assigning and evaluating employee activities related to the organization's environmental goals.
4. Green compensation is a system of monetary (cash rewards) and non-monetary (praise, awards, and recognition) rewards for those who contribute to environmental management goals.
5. Green engagement involves employee participation in environmental management activities to produce significant environmental outcomes (Pahalasari and Murwaningsari 2023).

3. METHODOLOGY

3.1. Research Design

This study uses the process and method of bibliometric analysis, namely by using the article selection method, inclusion criteria and a more objective analysis method. This type of analysis is carried out with the first step, namely collecting articles related to the keyword Green Human Resources using the Publish or Perish (PoP) application by taking a span of 23 years. From the keyword search, the results were 91 published studies that had sufficient relevance. Then the data was processed and analysed using Microsoft Excel to produce tables and graphs.

Bibliometric mapping can make it easier to visualize literature data into an image that is easier for researchers to process so that it can be used as useful insights (Lestari, et, al. 2023). Analysing data bibliometric can help to understand the intensity of current research on a topic from various fields of research explored by researchers (Amaliyah, et, al. 2023).

Bibliometric analysis is the basis for determining the most popular and most significant publications in a particular field, bibliometrics will display opportunity topics that have not been discussed often so that other researchers can find out the gaps in research around Green Human Resources. The implications and contributions of this research are the mapping of research topics around green resources that are often or rarely researched by researchers, so that they can be a reference for further researchers.

3.2. Data and Sample

Data collecting from article related keyword green human resource that published in Google scholar from 2000 to 2023. There are 91 published. Publish or Perish (PoP) application using to collected data in meta data from google scholar. Then the data was processed and analysed using Microsoft Excel to produce tables and graphs.

Table 1: Table 1: Development of Green Human Resources Research in Indonesia 2000-2023

Year	Number	Percentage
2000	0	0%
2001	0	0%
2002	0	0%
2003	0	0%
2004	0	0%
2005	0	0%
2006	0	0%
2007	0	0%
2008	0	0%
2009	0	0%
2010	0	0%
2011	0	0%
2012	0	0%
2013	0	0%
2014	0	0%
2015	0	0%
2016	1	1%
2017	3	3%
2018	2	2%
2019	4	4%
2020	6	7%
2021	6	7%
2022	24	26%
2023	45	49%
Jumlah	91	100%

Source: Processed by the Author (2024)

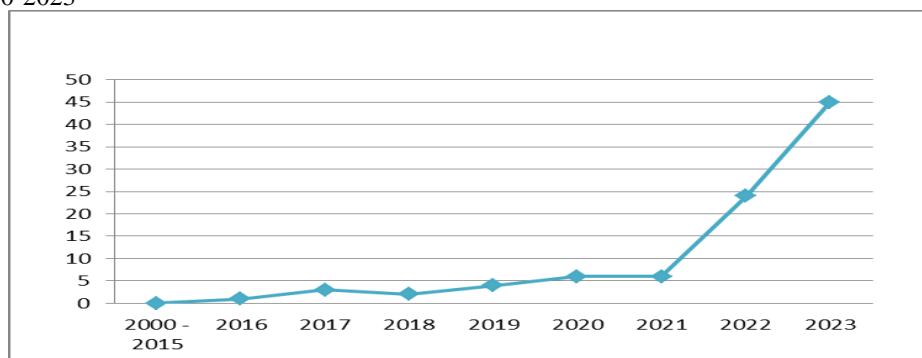
3.3. Data Analysis

Furthermore, for visualization of article data in the form of a network using the VOS Viewer application.

4. RESULTS AND DISCUSSION

Based on the results of the search for scientific work data on Green Human Resources in Indonesia, 91 published studies were obtained over a period of 23 years. The scientific work has gone through a filtering stage by looking for similarities with at least 2 repetitions of keywords or phrases that appear related to topics related to "Green Human Resources".

Figure 1: Graph of the Development of Research on Green Human Resources in Indonesia Period 2000-2023



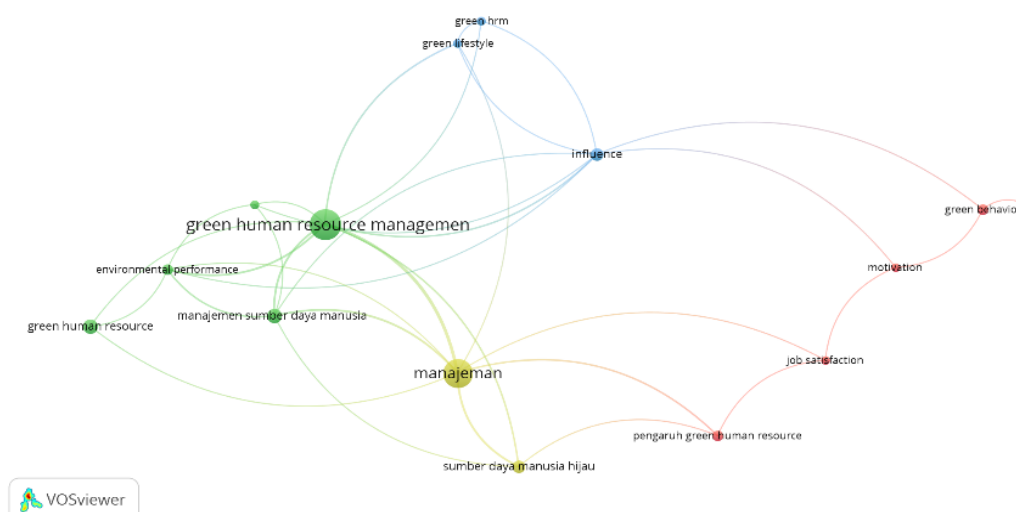
Source: Processed by the Author (2024)

Based on figure 1, it can be seen that from 2000 to 2015, there was no research on green human resources in Indonesia that examined the topic. This is because during that period the concept of sustainability in environmental management had not been widely echoed. Then, along with the development of industry 4.0 which was first officially recognized by the World Economic Forum in 2016, then in the period of 2016, published research began to emerge on green human resources in Indonesia. The concept of industry 4.0 tries to implement the green concept so that it has an impact on the transformation of strategies and policies in the management of human resources and technological competencies that are oriented towards the sustainability of the industrial environment and mastery of green technology (Saptaria, Lina, and Sopiah 2021).

Then the publication research on green human resources experienced ups and downs in 2017 to 2019 with a percentage of 3%, down to 2%, and then up to 4%. Furthermore, in 2020 there was an increase of 6 publications and stagnated in 2021 with a percentage of 7% in each of those years. During that time period, publication research on green human resources fluctuated. Then in 2022, research on green human resources in Indonesia grew rapidly in the year with 24 publications with a percentage of 26% and peaked in 2023 with 45 publications with a percentage of 49%.

Based on these data, it shows that there is environmental awareness which also has an impact on sustainable business practices that lead to a green economy, this cannot be separated from the intervention of human resource management in it which also supports environmental conservation efforts (Erwinsyah 2021).

Figure 2: Network Visualization About Green Human Resources in Indonesia



Source: Vosviewer Aplication (2024).

Based on network visualization, it can be seen that research publications with the theme of Green Human Resources from 2000 to 2023 have 15 keyword items related to Green Human Resources,

4 clusters or keyword groups with a total of 53 lines (links). The first keyword group is marked with a red symbol, namely green behaviour, green economy, job satisfaction, motivation, and the influence of green human resources.

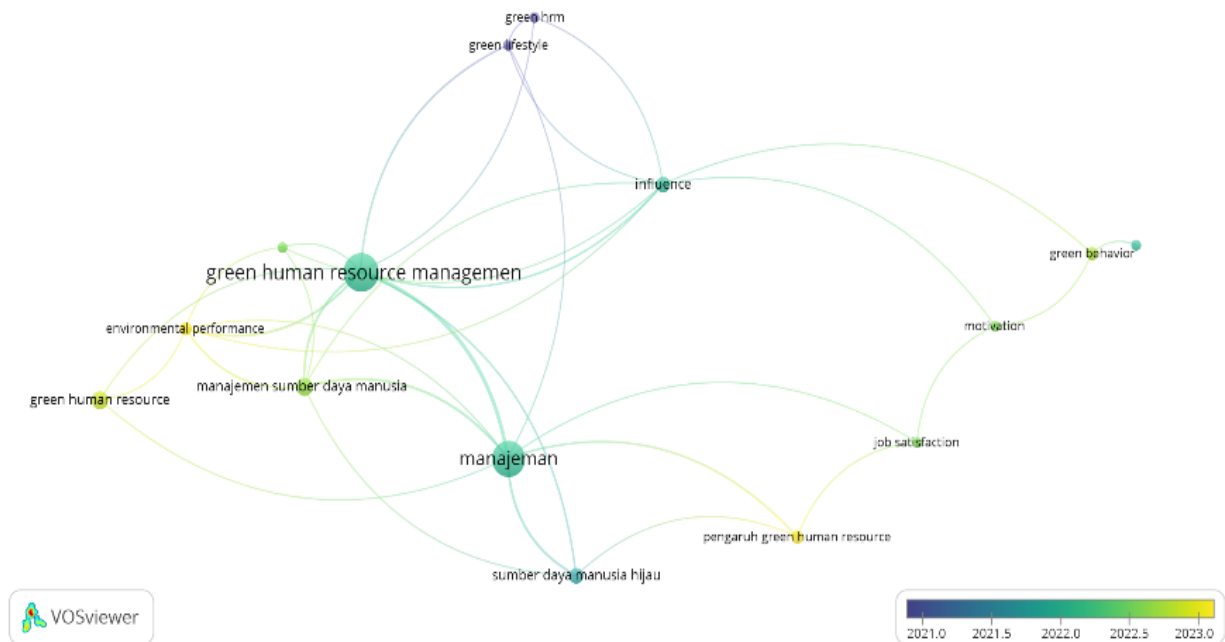
In recent years, the green economy has emerged as an important policy framework for sustainable development in both developed and developing countries, presenting a framework for producing a society that is more resource efficient, lower carbon, less environmentally damaging, and more socially inclusive (Anwar 2022). Therefore, companies must apply green organizational citizenship behaviour to each of their employees so that employees behave wiser and care about the environment around them.

Green organizational citizenship behaviour as individual discretionary behaviour, not formally rewarded and which collectively promotes effective organizational environmental management. This green behaviour is an extra environmental protection related service provided by employees on their own initiative (Nugroho and Tiarapuspita 2023). The right motivation system will increase efficiency and quality of performance, motivation is interpreted as an internal mechanism that acts as a catalyst for individuals to improve performance. The purpose of motivation itself is to increase productivity, efficiency, and overall organizational performance. Therefore, it is important for organizations to know the factors that can motivate members to do their jobs optimally. Some forms of motivation can be in the form of incentives, job security, promotions, working conditions to appreciation from superiors. The reward system is considered to be able to encourage members to make extra efforts (work) in meeting organizational demands (implementation of GHRM practices) so that it can align member performance and organizational goals, in implementing environmentally friendly behaviour. In addition to the right motivation system, job satisfaction is also a factor in the implementation of GHRM. This is because job satisfaction can lead to positive behaviour and member commitment to their work so that it can improve organizational performance in order to support the goals of companies that implement the green economy concept (Fathussalam, et. al. 2021). Green management is very important for many organizations because it ensures sustainable and significant environmental performance through various positive policies and practices that encourage green behaviour (Fitria 2024). The role of human resources is very much needed to ensure the mastery of environmentally friendly technology and the quality of human resources that support the implementation of environmentally friendly human resources through various training to produce a workforce that masters skills that support environmental conservation efforts.

The keywords of the second group with green symbols are environmental performance, green human resources and green human resource management and green innovation. Green human resources focus on the concept of green innovation that can produce environmentally friendly products for long-term business sustainability. Green innovation aims to contribute and handle negative environmental impacts (Sirajudin 2022). Green Human Resource Management (GHRM) has an impact on

environmental performance through environmentally friendly intellectual capital and pro-environmental behaviour. In addition, the implementation of GHRM also helps to realize competitive advantage in an organization and align business strategy with the environment, through increasing environmental awareness and implementing international environmental regulations in realizing sustainable business (Sutisnawati 2023). The third group of blue keywords is green human resource management, green lifestyle, and influence. A green lifestyle is a lifestyle that involves careful consideration of the negative impacts of one's daily activities on the environment and a meaningful narrative in guiding its sustainability. A green lifestyle involves environmentally friendly consumption and habits (Susilo et al. 2023). GHRM focuses on using indirect relationships between organizations that adopt pro GHRM practices to change staff behaviour to be more careful.

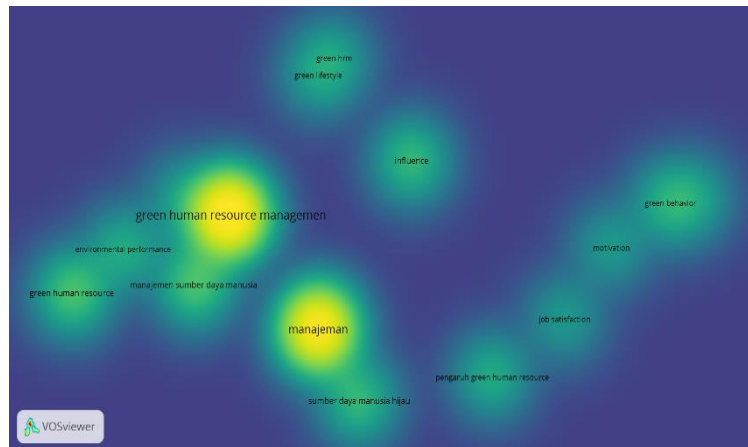
Figure 3: Overlay Visualization About Human Resources in Indonesia



Source: Vosviewer Application (2024).

The overlay visualization illustrates the novelty of a research topic which is marked with a brighter circle colour. Based on the image above, it is known that the keywords environmental performance and the influence of green human resources are keywords that are brighter in colour compared to other keywords. This shows the novelty of the topic of Green Human Resources in Indonesia in 2023. Environmental performance by emphasizing the concept of green human resources is gradually becoming very important for industry players in creating sustainable resources that prioritize environmental preservation in general will increase awareness of human resources who continue to be committed to environmental safety issues (Isrososiawan and Safroni 2020).

Figure 4: Density Visualization of Green Human Resources in Indonesia



Source: Aplikasi Vosviewer (2024).

This mapping displays research topics from the most discussed or researched indicated by the brightest colour to the least researched research topics indicated by the dimmest colour. This density visualization will provide an overview of the direction of opportunities for a research topic that has been researched the least, indicated by a colour that tends to be dimmer.

Based on the results of the visualization, the keywords management and Green human resource management are keywords that are often researched by researchers, while keywords covering job satisfaction, motivation, and the influence of green human resources related to the topic of Green Human Resources appear dimmer than other keywords. This shows that research containing these keywords is still limited and there are not many studies that have studied them. This has the potential to be used as a research direction or as reference material for further researchers when conducting similar research. In addition, the topic of the challenges of green human resources has not been seen in the density visualization. These topics can be used to further develop more varied topics about green human resources. Further researchers can also expand this field of research. In addition, the results of this study also have the potential to be explored through collaboration with other disciplinary perspectives. So that it increasingly contributes to the advancement of knowledge insights related to green human resources in Indonesia, especially in the industrial sector. Green human resource management can improve sustainable performance from social, economic aspects (Muchtadin 2022). Green human resources will influence green services and corporate social responsibility towards environmental preservation (Humairoh and Hermawan 2023). Environmentally friendly behaviour can also be adopted from the culture that has become a tradition in the organizational environment (Dahniar et al. 2023).

5. CONCLUSION

The development of research trends on green human resources publications in the last 23 years has been in a vacuum from 2000 - 2015 because at that time companies that carried the concept of

greening and being environmentally friendly had not been widely echoed so that research did not participate in developing. However, in 2016 the concept of sustainability, especially in the industrial sector, has begun to be implemented often with the increasing development of industry 4.0 which carries the green theme. Then the concept of green human resources continues to increase, especially in the last year in 2023 with 45 published studies, this figure has increased from the previous year, namely 2022, which only had 24 published studies.

Bibliometric analysis illustrates that there is a trend of topics that are often discussed in research including management topics and Green human resource management is a keyword that is often studied by researchers. The results of the bibliometric analysis also show that keywords that are still rarely discussed by researchers include the topics of job satisfaction, motivation, and the influence of green human resources, which look dimmer than other keywords. This shows that research containing these keywords is still small and there are not many studies that examine them. Therefore, these topics have the potential to be used as research directions or as reference materials for further researchers when conducting similar research. In addition, there is no topic yet regarding the challenges of green human resources in density visualization, these keywords can also be used as a follow-up topic that can be used by other researchers.

REFERENCES

- Amaliyah, Heliyatul, Lola Malihah, and Husna Karimah. 2023. "A Bibliometric Analysis of Economy Circular in Indonesia Using Vosviewer Application." In *Proceeding ADRI 1*, 123–30. Samarinda: ADRI Perkumoulan Ahli dan Dosen Republik Indonesia.
- Antika, Rani. 2024. "Pengaruh Manajemen Sumber Daya Manusia Ramah Lingkungan Terhadap Perilaku Green Service Dengan Tanggung Jawab Sosial Perusahaan Sebagai Pemidiasi." *Jurnal Manajemen Strategi Dan Aplikasi Bisnis* 7 (1): 121–36.
- Anwar, Muhkamat. 2022. "Green Economy Sebagai Strategi Dalam Menangani Masalah Ekonomi Dan Multilateral." *Jurnal Pajak Dan Keuangan Negara* 4 (15): 343–56.
- Dahniar, B, Dewi Prihatini, Markus Apriono, and Siti Komariyah. 2023. *Description of Local Wisdom Culture " Waja Sampai Kaputing " in Palm Oil Companies*. Atlantis Press International BV. <https://doi.org/10.2991/978-94-6463-146-3>.
- Erwinskyah. 2021. "Peluang Ekonomi Hijau Dan Keterampilan Hijau Menuju Netral Karbon Indonesia." *Journal of Applied Business and Economics* 8 (2): 159–81.
- Fathussalam, Moch Yusuf. 2021. "Faktor Yang Mempengaruhi Implementasi Green Human Resource Management Pada Ormawa : Model Konseptual : Indonesia." *Journal Advances in Information and Industrial Technology* 3 (1): 11–18.
- Fitria, Anis. 2024. "Manajemen Sumber Daya Manusia Hijau (Green HRM) : Tren Penting Untuk Mendukung Kinerja Berkelanjutan." *Jurnal Riset Dan Inoovasi Manajemen* 2 (2): 18–31.

- Heryana, and Dadi. 2024. "Green Intellectual Capital and Green Human Resource Management : Pendekatan Scoping Review." *Journal of Law : Administration and Social Science* 4 (3): 340–51.
- Humairoh, Putri, and Ancella Anitawati Hermawan. 2023. "The Influence of Green Human Resources Management on Green Performance : The Role of Levers of Control." In *Proceeding of the 1st International on Management*.
- Isrososiawan, and Safroni. 2020. "Green Human Resources Management Mendukung Kinerja Lingkungan Industri Perhotelan." *Jurnal Co Management* 3 (2): 457–70.
- Lestari, Vivi, and Sahira. 2023. "Analisis Bibliometrik : Fokus Penelitian Problem Based Learning Dalam Pembelajaran Matematika." *Realistik* 4 (1).
- Malihah, Lola. 2022. "Tantangan Dalam Upaya Mengatasi Dampak Perubahan Iklim Dan Mendukung Pembangunan Ekonomi Berkelanjutan : Sebuah Tinjauan." *Jurnal Kebijakan Pembangunan* 17 (2): 219–32.
- Mansyur, Maulana. 2023. "Manajemen Sumber Daya Manusia Hijau Pada Dunia Industri (Emperical and Theoretical Study in Implementation of Green HRM)." *Jurnal Penelitian Tambusai* 7 (3).
- Muchtadin, Muchtadin. 2022. "Hubungan Antara Manajemen Sumber Daya Manusia Hijau Dan Kinerja Berkelanjutan : Tinjauan Literatur." *JDM : Jurnal Doktor Manajemen* 5: 54–63.
- Nugroho, Muhammad Alfian, and Tiarapuspita. 2023. "Green Transformtional Leadership, Green Human Resource Management Terhadap Green Organizational Citizenship Behaviour." *Jurnal EKonomi Dan Teknik* 2 (4): 350–59.
- Pahalasari, Elizabeth, and Etty Murwaningsari. 2023. "Pengaruh Kualitas Pengungkapan Lingkungan Dan Manajemen Sumber Daya Manusia Hijau Terhadap Kinerja Perusahaan." *Jurnal EKonomi Trisakti* 3 (2).
- Ren, S, and Miao. 2018. "Green Human Resource Management : A Review and Future Research Direction." *Journal of Clener Production* 175: 1–10.
- Said, Laila Refiana, Hastin U M I Anisah, Muhammad Riza Firdaus, and Muhammad Karunia Rachman. 2022. "The Impact of Perceived Benefits of Corporate Social Responsibility Initiatives on Wetland Farming Communities in Indonesia" 19: 402–13. <https://doi.org/10.37394/23207.2022.19.36>.
- Saptaria, Lina, and Sopiah. 2021. "Transformasi Kepemimpinan Dan Kompetensi Teknologi Dalam Manajemen Industri Hijau : Tinjauan Literatur Sistematis." *Jurnal EKonomi Dan Bisnis Digital* 1 (2): 119–32.
- Sirajudin. 2022. "Inovasi Hijau Sebagai Strategi Pengembangan Usaha Mikro Syariah." *Jurnal Bidang Kajian Islam* 8 (1): 35–48.
- Susilo, Reynaldo, Fajar, and Nugraha. 2023. "Konsep Ekonomi Sirkular Dalam Berkelanjutan Untuk Membangun Gaya Hijau Masyarakat Indonesia." *Jurnal Imagine* 3 (1): 41–49.
- Sutisnawati, Yayah. 2023. "Analisis Bibliometrik Green Human Resource Management (GHRM)

Terhadap Kinerja Lingkungan Di Perusahaan.” *Jurnal Konsep Bisnis Dan Manajemen* 10 (1): 100–111.

Syaefuddina, Muhammad Abdullah. 2022. “Konsep AMO Dalam Penerapan GHRM Dalam Mewujudkan Digitalisasi Kesehatan Lingkungan Smart City.” *Journal of Materials Processing Technology* 29 (2): 40–49.

Syafari, Muhammad. 2022. “Manajemen Sumber Daya Manusia Ramah Lingkungan.” *Equator Journal of Management and Entrepreneurship* 10 (3): 145–58.