

Analysis Systematic Literature Review: The Study of HRM Transformation Into Digital-Based GHRM Future Research Agenda

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ABSTRACT

Eco-friendly human resources can help sustainable business continuity. The current research aims to propose a business model theoretical framework that adapts to the new environment, addresses sustainable goals and gaps in the field, and builds a resilient and agile system for the business ecosystem. To approach the research problem, this study used the R-based Bibliometrix tool. The Scopus database selected and analyzed papers as part of five research steps. Bibliometric tools such as Biblioshiny, VOSviewer, and R Studio have been used to illustrate the findings. This study's findings highlight several factors that will form the foundation of the proposed model. Green competencies, both natural and acquired, and the requirement to provide green motivation, were identified as important for developing the new business model.

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1. INTRODUCTION

In recent years, the main concern of businesses is more oriented toward short-term financial or financial goals. But with the time marked by the industrial and technological revolution, it is necessary to pay attention to environmental factors because of the inadequacy of the development model [1]. One of the things done is to actively participate in organizational activities by considering and incorporating environmental factors in daily operations which will have a major impact on environmental activities. Employees have an important role in maintaining and paying attention to

sustainable environmental aspects in carrying out their operations [2].

Human Resource Management (HRM) is a process that involves many activities ranging from recruitment to payroll management that must be carried out simultaneously [3]. Currently, Human Resource Management (HRM) is an approach used to replace personnel management which deals with the process of managing people who work in organizations [4]. Although in practice what is done in HRM today is identical to what is done in personnel management, there are differences in the scope of implementation. Personnel management is only responsible for hiring people, paying them and firing them in the

end, while HR Management uses a more planned approach, namely having the right people to hire, providing training to them, developing job designs, and designing compensation systems including benefit plans and services provided to ensure employee health and welfare [5]

In its development, the green concept adopted in HRM is carried out to create awareness of environmental sustainability in business organizations and reduce the impact of environmental damage, and improve the company's financial performance [6]. Companies that start practicing green business concepts such as Green Human Resource Management (GHRM) will be able to make financial savings on company operations, and can even benefit from these practices. The GHRM concept also integrates environmentally friendly HR initiatives and practices for the sustainable use of resources in the work environment which results in more efficiency, reduced production costs, and improved caring attitudes at work [7].

For this reason, employees as one of the components of the waste treatment industry need to understand environmental management as one aspect in order to increase business productivity and GHRM is one of the roles within the company that is tasked with managing the workforce by involving environmental aspects. One example of the practice of the GHRM concept is the use of fewer documents in all HR functions such as recruitment & selection, training, compensation & reward, performance reviews, etc. This is done to create a sustainable competitive advantage, and environmentally friendly through employee engagement. This kind of GHRM implementation is the best strategy that can help organizations to implement environmental performance programs in their business activities while better managing the organization's environmental impact.

GHRM implementation is also a form of effort to increase productivity and the company's commitment to maintaining environmental sustainability [8]. Some forms of GHRM implementation in companies are carried out through performance

management, training, development, learning, compensation and benefits, and organizational culture

Currently, many companies carry out this activity with traditional methods, which will create more workload and will be a big problem for the HR unit and employees. This situation requires that HR processes are developed with technology-based and innovative methods. Technology is changing the way HR departments communicate with employees, store files, and analyze employee performance. When used well, technology makes HR practices more efficient. If used inappropriately, technology can hinder a company's human resource management. Good HR practices maximize benefits and minimize problems. These applications are electronic, digital, technological, and informatics applications that are based on mobile or web applications [9]. It can be said that these concepts have spread and evolved under the umbrella of e-hrm. Although the most cutting-edge are mobile applications, they offer a more convenient and faster workflow compared to desktop or laptop computers. As applications for processes such as personnel recruitment and selection, wages, performance, rewards and incentives, and employee satisfaction increase the level of employee participation in HR processes, it is easier for HR to determine and implement the right solutions and processes. In recent years, internet usage habits have changed rapidly and the number of people actively using social media is increasing day by day [10]. The experience that social networks give to people is reflected in, especially in the job application and recruitment process. At this point, we can say that application forms are gradually becoming obsolete in the recruitment process. Even interviews, which are one of the important stages in the recruitment process, are now conducted through online platforms. Creating an application process through software improves traceability and reporting.

2. LITERATURE REVIEW

e-Green Human Resource Management Study

In an organization, communication is not only done by employees but also by leaders [11]. Business processes using cloud technology enable rapid business development in real-time and continuously. Digital HR technology is defined as a set of software, hardware, and electronic network resource configurations designed and adopted to automate HR functions in organizations using the latest information technology disruptions ([12]; [13]. e-HRM is defined as HRM practices that create consistent, efficient, high-quality, and long-term opportunities by using digital transformation and new technologies that evolve together to meet organizational needs and cover all HRM functions and content [14]. e-HRM wants to be realistic and closely related to the current order, we need a broader focus to address this reason. e-HRM has emerged as a planned result of strategic decisions related to HRM services in organizations [14]. The use of digital technologies in the HR field has resulted in the transformation from HRM to e-HRM or digital HRM, while at the same time benefiting from the full potential of technological development by providing greater flexibility [15].

The development of the use of digital technology in the field of HR management is increasing and widespread. According to a global study 74% of more than 7,000 companies in 130 countries around the world have drawn attention to the importance of incorporating digital technologies into their HR management practices. At the same time, as experts emphasize, it is not enough for today's HR to buy digital products, it must learn to be "Digital" [16]. It is important for managers and leaders to first analyze their business and market situation, then decide on the right strategy and structure and engage their employees in digital transformation. With the continuous changes brought by digital transformation, the increasing need for knowledge, performance, productivity, and skills is causing great pressure on the workforce at all levels [17]. Meeting these needs with digital learning platforms, organizing customized training and

development programs for employees and managers according to their level and branch can improve the company's internal training [18]. This new training method supports the acquisition of skills based on the strategy followed by the organization and which the training system cannot provide [19]. HR professionals need to familiarize the workforce with the need to develop skills and provide them with training and development interventions to deliver what works best for the organization. E-learning, online learning, webinars, distance or online education and development programs, e-skills, and certificates should be accepted by organizations [20].

The development of business processes in the management of SDMs will shift to a more environmentally focused direction, which requires MSDM to adapt and expand its research by adopting an environment for developing ways to carry out its primary responsibilities [21]. Human resource management practices, according to academics, have the power to assess and influence employee behaviour, attitudes, knowledge, and motivation related to sustainability. As a result, companies can efficiently utilize human resources to carry out an environmentally friendly strategy (GHRM). eGreen human resource management is the implementation of the SDM policy that encourages the use of resource resources within the company on the business environmental strategy.

This term refers to the utilization of any contact point or employee interaction to promote sustainable behaviour to improve employee understanding and commitment to sustainability issues [22]. Green human resource management includes the implementation of initiatives that increase efficiency, lower costs, and increase employee engagement and retention, thus helping organizations reduce employee carbon footprints through strategies such as electronic archiving, shared car use, video conferencing, virtual interviews, recycling, telecommuting, and so on [23]. Indeed, academics in this field grasp that the workforce is crucial to the success or failure of

organizational ecological operations. Environmentally friendly human resources practices are important not only at the organizational level but also at the personal level [24]. As an employee has a personal life alongside a professional life, moreover, environmentally friendly human resource management can help increase the competitive advantage of the possibilities that exist in changing markets and minimize labor turnover as employees are more satisfied with the company. In addition, the following arguments indicate the needs and requirements for companies to implement environmentally friendly human resource management practices [25].

First, the adoption of resource management practices of human resources management in business can lead to an increase in human resources. This is because a thriving green economy creates demands for labor development, which benefits employees. Moreover, because employees are more engaged and provide more inventive solutions to business challenges associated with dynamic change, this new model helps solve SDM problems quickly. In addition, green human resources management helps in staff retention, because human resources want to work for organizations that adhere to a green corporate philosophy that adopts environmentally friendly strategies [26]. Environmentally friendly human resource management is a

mutually beneficial strategy for and business [22]. By implementing this strategy, companies can successfully recruit and retain high-quality employees through appreciation and engagement in the workplace. It can increase employee productivity. All of the above can be achieved with the right direction given through strong leadership, emotional support, and better professional growth thus resulting in a better work-life balance.

3. METHODS

The method of Systematic Literature Review (SLR) is used in this study to identify, review, and evaluating relevant and relevant research to answer questions that have been set in a study [27]. In addition, the research consists of several stages, namely the method of selection of articles, the inclusion criteria, as well as objective analysis methods. The article selection process in this research uses the preferred Reporting Items for Systematic Review (PRISMA) article selection stages or the PRISMA flow diagram [28]. The first step in carrying out bibliometric studies is to obtain the necessary data from the Scopus bibliographic database. The data is then inserted into the R studio, the R environment used to analyze research subjects and export dynamic graphics. To discuss research topics, bibliometric analysis involving six steps applied in this study (Figure 1).

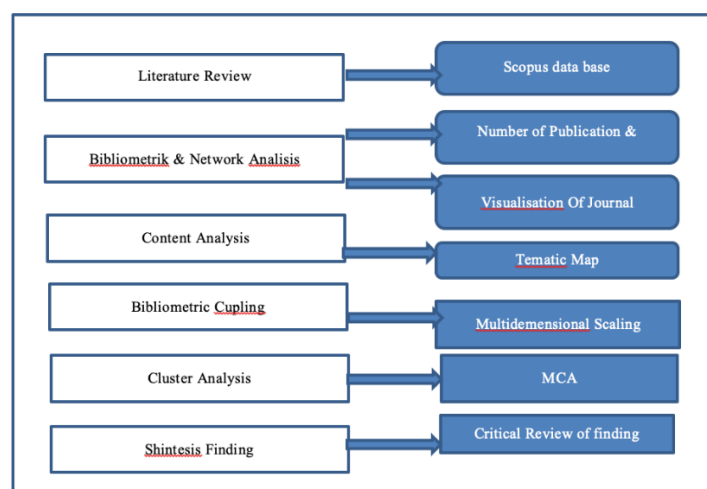


Figure 1. Six steps applied in this study

After taking bibliographic data of scientific documents from the Scopus database, a set of different bibliometric quotation analysis steps are used to the following purposes: (i) Testing Lotka's law; (ii) Presenting a general overview of research trends; (iii) Investigating the most relevant and impactful journals and scientific documents, as well as the most globally relevant and influential; (iv) Developing thematic maps; (v) Development of collaborative world maps. Lotka's rule governs how often authors publish in scientific journals. The Law of Lotka states that, when many authors produce only one written work, a small number of authors are highly productive in any scientific subject.

According to the Law of Lotka, the number of writers who publish x the amount of publications is about $1/x^b$ of those who participate in only one scientific effort. As a result, a higher b value implies more author concentration, while a lower value indicates a lack of a specific group of authors in a particular field of science. A plot of three fields or Sankey's diagram, in addition to Lotka's law, has been developed to explain the relationship between journals, keywords, and states. Further, the underlying research clusters are investigated, and the current research trend maps are currently developing research trends using bibliographic coupling

analysis. The correspondence analysis approach is finally fulfilled, with the main objective of analyzing bibliographic data and integrating it into a series of components. A writer can apply this method to emphasize research trends in a particular scientific field and summarize bibliographic data.

4. RESULTS AND DISCUSSION

This study aims to emphasize the importance of green human resource management and to present a theoretical framework for a business model that will help SMEs in achieving green performance and building sustainable, resilient, and sustainable ecosystems that are robust, and flexible. The sample consisted of 368 relevant studies published between 2011 and 2022. Lotka's approach is used to evaluate the scientific production of authors. According to the findings, 589 authors in the field of human resource management strategies are green on scientific papers, while only one author contributing to a single author contributes to a maximum of eleven articles published in the subject area. Thus, the subject of Green Human Resource Management is Green human resources and the adoption of green practices as a distinct scientific domain with a high level of concentration of writing.

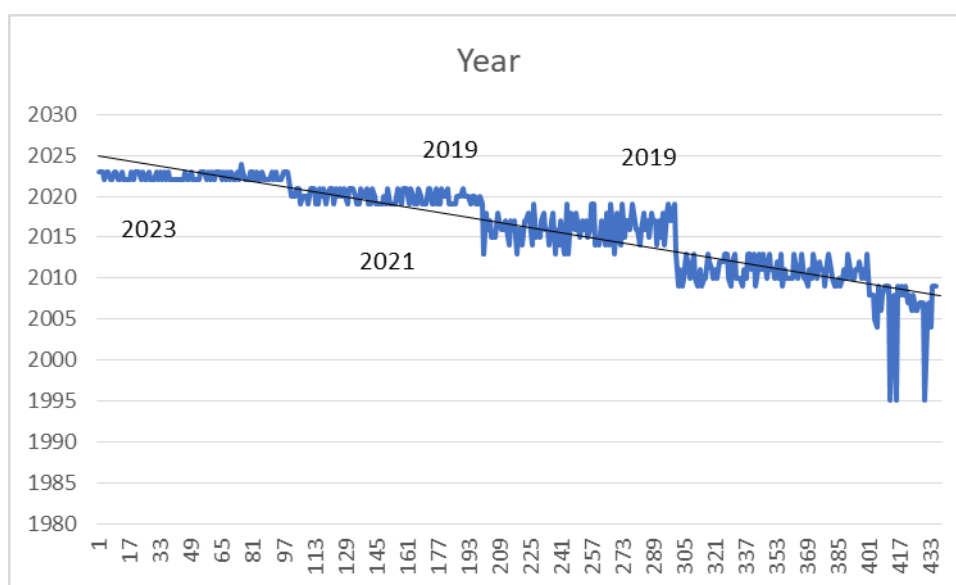


Figure 2. Annual Scientific Publication and Timespan Trend

Annual Scientific Publication and Timespan Trend Figure 2 describes the amount of research done on GHRM subjects as well as the techniques developed to help them green performance. Before 2019, there was little progress in research, but after 2020, publications began to rise. To be more specific, only 49 papers were published

during the first three years of the study (2019-2023), far fewer than the 135 papers published in the previous five years. (2015-2020). It depicts that there is a sustained growth in academic interests shifting from conventional human resources management models to environmentally friendly or sustainable human resource management models.

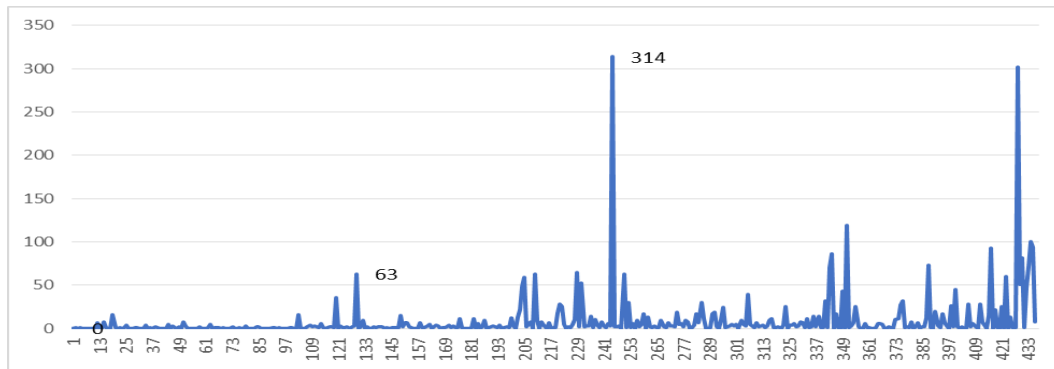


Figure 3. Pictures summarizes

Finally, Pictures summarizes the most important scientific papers on green human resource management that contain scientific publications based on qualitative and quantitative research. Some of the most prominent scientific publications focus on sustainability pillars and their impact on human resource management. In addition, some articles support the assumption that an environmentally friendly human resource management model is at the top of the business agenda, while others investigate employees' attitudes toward sustainability and their desire to implement green practices.

The keyword analysis used is a research trend in the field of study. Figure 3 illustrates a network representation based on the appearance of the author's keyword. The authors keyword appearance is displayed simultaneously using VOSviewer. The software helps in mapping the metric network biblio. Each circle on the chart shows a case that happens simultaneously. The wider the circle, the more often these terms appear at the same time. A circle of the same color shows a

group of keywords, and the line that connects the circle reflects the keyword association. Keywords that appear and are classified into 5 clusters. Cluster 1 (red) relates to "Environmental management and environmentally friendly human resource management". This relationship indicates that SDM management should be a fundamental pillar of environmental management activities by combining organizational development and SDM. Green alignment, green construction, and cross-organizational networking are some of the most important green strategies of human resource management. To prevent unknown hazards, training in environmental management or in the production of creative ideas is also encouraged, as it encourages the transfer of information between employees. Cluster 2 (green) deals with the topic of "environmentally friendly human resource electronics", besides, a sustainable approach can also avoid unexpected impacts and negative feedback, while seeking desired results in line with stakeholder expectations.

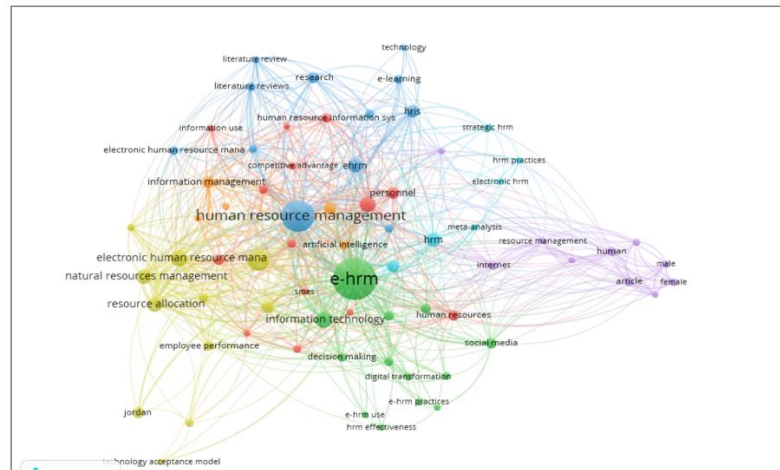


Figure 4. Network Visualization by VOSViewer

The strategic approach to human resource management (HRM) is commonplace. HRM operations have sought to contribute to the economic goals of the organization, with emphasis on legal compliance, reduction of litigation, minimization of costs per employee, employee attitude, and incentive programs [29]. Human resource management strategy has been associated with a series of procedures to meet corporate goals, mostly financial goals. However, the crucial factor of sustainability has grown in the business world, with the belief that it is impossible to build a sustainable society without the active involvement of the enterprise world.

This setting can be used to explore the function of HRM processes in the sustainable growth of organizations [30]. Experts in HRM have found various aspects of this reason why sustainability is associated with MSDM functions and the relevance of sustainability capabilities in MSDM. One such aspect is a macro view that focuses on the contributions of organizations to their social and economic worlds. This perspective is generally related to discussions on social and environmental sustainability. From this perspective, MSDM practices enable companies to make long-term contributions to the social and environmental sectors of life [31]. Another aspect of this argument focuses on the intrinsic causes and relationships within the HRM system and examines the sustainability of the person and the level of HRM Human Resource Management may refer to organizational

sustainability as something to be considered when making procedures or as the ultimate goal. Based on the first approach, HRM policies and practices are intended to help develop a corporate sustainability mentality and action. In the second perspective, the concept of sustainability is integrated into human resources management practices intended to provide long-term physical, social, and social benefits to employees' economic well-being. The sustainability of corporate professionals leads to the sustainability of other organizational resources [32]. As a result, there are two premises: the role of HRM in helping, especially SMEs, formulate and implement sustainable strategies; and the development of the MSDM process itself in a sustainable manner. In short, Human Resource Management supports and benefits from corporate sustainability. The relationship between sustainability and MSDM practice has given rise to a new modern idea known as "environmentally friendly human resource management" in literature. GHRM is defined as a set of behaviors that enhance professional well-being, dedication, and happiness while contributing to the economic, social, and environmental life of a company in the long-term sustainability [26]. As a result, GHRM plays an important role in balancing the elements associated with the triple bottom line. Furthermore, GHRM advocates the preservation and improvement of the well-being of present and future generations, creating a harmonious environment,

organizational environment, improvement of quality of life, and reduction of social injustice.

5. CONCLUSION

Various entities are pressuring the business world to follow this trend because it will have an impact on society; some have formed environmentally friendly initiatives and are looking for innovative solutions to address environmental management challenges. One method that emerged as a response to environmental damage is environmentally friendly human resources management. The term GHRM refers to the initial focus of the organization on human resources operations for long-term development. GHRM practices encourage

ecological resource consumption by emphasizing environmental sustainability, improving human resource behavior, and instilling accountability for environmental health. eGHRM improves social and economic well-being while promoting environmentally conscious behavior. A broader GHRM approach will help in placing sustainability as a human resource management hub. eGHRM refers to the element of MSDM in environmental management. eGHRM methods have been proven to improve the company's reputation and performance as well as to be effective in assisting staff. The idea of "going green" across the company's function is proposed as a way to motivate employees towards a greener environment.

REFERENCES

- [1] V. Sima, I. G. Gheorghie, J. Subić, and D. Nancu, "Influences of the Industry 4.0," *Sustainability*, vol. 13, no. 8, pp. 4041–4056, 2020.
- [2] F. Ruiz-Pérez, A. Lleo, and M. Ormazabal, "Employee sustainable behaviors and their relationship with Corporate Sustainability: A Delphi study," *J. Clean. Prod.*, vol. 329, 2021, doi: 10.1016/j.jclepro.2021.129742.
- [3] X. Huang, F. Yang, J. Zheng, C. Feng, and L. Zhang, "Personalized human resource management via HR analytics and artificial intelligence: Theory and implications," *Asia Pacific Manag. Rev.*, vol. 28, no. 4, pp. 598–610, 2023, doi: 10.1016/j.apmr.2023.04.004.
- [4] Taslim Ahammad, "Personnel Management to Human Resource Management (HRM): How HRM Functions?," *J. Mod. Account. Audit.*, vol. 13, no. 9, pp. 412–420, 2017, doi: 10.17265/1548-6583/2017.09.004.
- [5] I. M. Bahuguna *et al.*, "Are the Himalayan glaciers retreating?," *Curr. Sci.*, vol. 106, no. 7, pp. 1008–1013, 2014.
- [6] I. G. R. Palguna, "Green Human Resource Management Practices in Hospitality Industry: A General Review," *Int. J. Global Tour.*, vol. 2, no. 2, pp. 75–84, 2021, doi: 10.58982/injogt.v2i2.48.
- [7] F. Mahdy, M. Alqahtani, and F. Binzafrah, "Imperatives, Benefits, and Initiatives of Green Human Resource Management (GHRM): A Systematic Literature Review," *Sustainability*, vol. 15, no. 6, p. 4866, 2023, doi: 10.3390/su15064866.
- [8] I. M. M. Haeruddin, H. Hiromi, and M. I. W. Haeruddin, "Beds are Burning: A Study of Green Human Resource Management Implementation on the Quality of Work Life in Public Universities," *J. High. Educ. Policy Leadersh. Stud.*, vol. 4, no. 3, pp. 97–116, 2023, doi: 10.61186/johepal.4.3.97.
- [9] A. Haleem, M. Javaid, M. A. Qadri, and R. Suman, "Understanding the role of digital technologies in education: A review," *Sustain. Oper. Comput.*, vol. 3, no. May, pp. 275–285, 2022, doi: 10.1016/j.susoc.2022.05.004.
- [10] D. In, "Human Resource Management January 2017 Coursebook," no. January, 2017, [Online]. Available: www.iqnglobal.com
- [11] A. Pramasitaningdyah and K. Sinduwiatmo, "The Role of Organizational Communication Patterns in Motivating Employees: A Study of a Small Manufacturing Company in Indonesia," *KnE Soc. Sci.*, vol. 2022, pp. 238–246, 2022, doi: 10.18502/kss.v7i12.11522.
- [12] A. Jani and A. Muduli, "Role of Technology for HR Transformation Enabling Higher Organizational Performance Does high performance work system mediate between HR technology acceptance and business outcomes?," *Middle East J. Manag.*, no. Y, 2015, [Online]. Available: <https://www.researchgate.net/publication/291321468>
- [13] J. H. Marler and E. Parry, "Human resource management, strategic involvement and e-HRM technology," *Int. J. Hum. Resour. Manag.*, vol. 27, no. 19, pp. 2233–2253, 2016, doi: 10.1080/09585192.2015.1091980.
- [14] A. C. De Alwis, B. Andrić, and M. Šostar, "The Influence of E-HRM on Modernizing the Role of HRM Context," *Economies*, vol. 10, no. 8, pp. 1–13, 2022, doi: 10.3390/economies10080181.
- [15] P. S. Hempel, "Preparing the HR profession for technology and information work," *Hum. Resour. Manage.*, vol. 43, no. 2–3, pp. 163–177, 2004, doi: 10.1002/hrm.20013.
- [16] T. Bondarouk, E. Parry, and E. Furtmueller, "Electronic HRM: four decades of research on adoption and consequences," *Int. J. Hum. Resour. Manag.*, vol. 28, no. 1, pp. 98–131, 2017, doi: 10.1080/09585192.2016.1245672.
- [17] Y. Zhang and S. Jin, "How Does Digital Transformation Increase Corporate Sustainability? The Moderating Role of

- Top Management Teams," *Systems*, vol. 11, no. 7, 2023, doi: 10.3390/systems11070355.
- [18] A. S. Gutterman, "Training and development," *Encycl. Hum. Resour. Manag. Second Ed.*, no. August, pp. 388–390, 2023.
- [19] D. S. Russell, "Training and development," *Encycl. Hum. Resour. Manag. Second Ed.*, no. August, pp. 388–390, 2023.
- [20] M. Charalampous, C. A. Grant, C. Tramontano, and E. Michailidis, "Systematically reviewing remote e-workers' well-being at work: a multidimensional approach," *Eur. J. Work Organ. Psychol.*, vol. 28, no. 1, pp. 51–73, 2019, doi: 10.1080/1359432X.2018.1541886.
- [21] Y. Zhu, H. Zhang, A. B. Siddik, Y. Zheng, and F. A. Sobhani, "Understanding Corporate Green Competitive Advantage through Green Technology Adoption and Green Dynamic Capabilities: Does Green Product Innovation Matter?," *Systems*, vol. 11, no. 9, 2023, doi: 10.3390/systems11090461.
- [22] S. Ahmad, "Green Human Resource Management: Policies and practices," *Cogent Bus. Manag.*, vol. 2, no. 1, pp. 1–13, 2015, doi: 10.1080/23311975.2015.1030817.
- [23] M. Arora, "Green HRM in India: An Initiative for Environmental protection (An Interpretive Study)," vol. 17, no. 10, pp. 4132–4147, 2020.
- [24] O. Ercantan and S. Eyupoglu, "How Do Green Human Resource Management Practices Encourage Employees to Engage in Green Behavior? Perceptions of University Students as Prospective Employees," *Sustain.*, vol. 14, no. 3, 2022, doi: 10.3390/su14031718.
- [25] A. Hutomo, T. Marditama, N. Limakrisna, I. Sentosa, J. Lee, and K. Yew, "Green Human Resource Management, Customer Environmental Collaboration and the Enablers of Green Employee Empowerment: Enhancing an Environmental Performance," vol. 1, no. 2, pp. 358–372, 2020, doi: 10.38035/DIJEFA.
- [26] C. Papademetriou, K. Ragazou, A. Garefalakis, and I. Passas, "Green Human Resource Management: Mapping the Research Trends for Sustainable and Agile Human Resources in SMEs," *Sustain.*, vol. 15, no. 7, pp. 1–26, 2023, doi: 10.3390/su15075636.
- [27] E. Triandini, S. Jayanatha, A. Indrawan, G. Werla Putra, and B. Iswara, "Metode Systematic Literature Review untuk Identifikasi Platform dan Metode Pengembangan Sistem Informasi di Indonesia," *Indones. J. Inf. Syst.*, vol. 1, no. 2, p. 63, 2019, doi: 10.24002/ijis.v1i2.1916.
- [28] D. Moher, A. Liberati, J. Tetzlaff, and D. G. Altman, "Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement," *Int. J. Surg.*, vol. 8, no. 5, pp. 336–341, 2010, doi: 10.1016/j.ijisu.2010.02.007.
- [29] Ahmadi and B. S. Dharmmesta, "Analisis Motivasi , Kemampuan , Dan Kesempatan Yang Membentuk Perilaku Sebuah Studi Longitudinal," *Pendidikan*, vol. 1, no. 1995, p. 145, 2021.
- [30] A. Elias, K. Sanders, and J. Hu, "The Sustainable Human Resource Practices and Employee Outcomes Link: An HR Process Lens," *Sustain.*, vol. 15, no. 13, 2023, doi: 10.3390/su151310124.
- [31] Farida, "Human Resource Management Practices in Small and Medium Enterprises," *J. Ekon.*, vol. 12, no. 4, pp. 2009–2014, 2023, doi: 10.3126/ppj.v2i1.48130.
- [32] Y. J. Fan, S. F. Liu, D. B. Luh, and P. S. Teng, "Corporate sustainability: Impact factors on organizational innovation in the industrial area," *Sustain.*, vol. 13, no. 4, pp. 1–24, 2021, doi: 10.3390/su13041979.