The Role of Green Human Resource Management in Driving Green Business: Evidence from Indonesian SMEs

Agustin Amborowati[1], Asri Laksmi Riani[2], Mugi Harsono[2], Joko Suyono[2]
[1]Departement of Business Management, Vocational School, Universitas Sebelas Maret
[2]Departement of Management, Faculty Economic and Business, Universitas Sebelas Maret

Abstract

As the global market increasingly demands sustainability, Small and Medium Enterprises (SMEs) face the critical challenge of transitioning into green businesses. While technology and financial capital are vital, the role of human capital management remains a decisive factor. This study investigates the strategic role of Green Human Resource Management (GHRM) as a unified construct in driving green business outcomes among Indonesian SMEs. Specifically, it examines how the integration of environmentally conscious HR practices influences overall green business performance and organizational sustainability. Utilizing a quantitative survey method with structural equation modeling (SEM), data were gathered from 406 SMEs in Indonesia. The empirical findings demonstrate that GHRM acts as a powerful driver that effectively aligns employee capabilities with the firm's ecological goals, thereby accelerating green business transformation. This research underscores that adopting GHRM is no longer optional but a strategic necessity for SMEs to build resilience and foster sustainable growth in a changing economic landscape. The implications offer practical insights for SME owners and policymakers, particularly BRIDA, in leveraging human resources to advance the local green economy.

Keywords: Green Human Resource Management (GHRM), Green Business, SMEs, Indonesia

INTRODUCTION

Green Human Resources Management Practices (such as green recruitment, green training, green compensation systems) are seen as valuable and scarce resources that can increase employee commitment, productivity, and innovation (Shoaib et al., 2025). The Green Human Resources Management variable was chosen because it is holistically and measurably able to integrate environmental policies into the core of human resource management practices, thereby not only shaping pro-environmental behavior in the workplace but also creating a sustainable organizational cultural transformation.

Green Human Resources Management includes systematic mechanisms ranging from recruitment, training, awards, to environment-based performance appraisals (Kaur et al., 2025; Shoaib et al., 2025). As stated by Aboramadan (2020), Green Human Resources Management acts as an intrinsic and extrinsic source of motivation that encourages active employee involvement in green initiatives, while research by Ahmed et al. (2024) and Noor et al. (2024) confirms that Green Human Resources Management directly shapes environmental passion, increases green competence, and motivates sustainable performance through a reward and development system.

Furthermore, Green Human Resources Management has been proven to create a green organizational culture that encourages innovation (Shafaei & Nejati, 2023), strengthens employer brands (Chen & Wu, 2022), and improves employee well-being through a healthier work environment (Shahzad et al., 2025). According to Gazi et al., (2025), HR managers can use pro-environmental recruitment and training to help encourage green development in organizations.

Hiring environmentally conscious staff and then establishing a regular and efficient training and monitoring system helps to improve environmental awareness in various roles within the organization. These actions ensure that ecological awareness is embedded in the behavior and habits of the workforce. The Green Human Resources Management strategy increases employees' environmental awareness and refines employee habits, fostering a pro-environmental mindset in employees' professional and personal lives (Gazi et al., 2025).

Green Human Resources Management (GHRM) is a strategic approach to managing human resources that integrates environmental sustainability principles into HR practices. The GHRM practice conducts eco-friendly recruitment and selection, training and development, performance appraisals, and empowerment to create eco-friendly behaviors for employees (Cahyadi et al., 2023). As organizations increase awareness of the importance of environmental conservation, GHRM is becoming an important instrument to encourage environmentally friendly behavior in the workplace and improve the overall sustainability of the organization.

Studies have shown that GHRM plays a significant role in shaping employee green behavior and strengthening employee commitment to sustainability values. Gyensare et al. (2024) emphasized that GHRM is able to build a pro-environmental organizational culture through active employee involvement, while Faezah et al. (2024) added that the implementation of GHRM has an impact on improving job satisfaction and psychological well-being because it gives a deeper meaning to work. Din et al. (2025) underline that the success of GHRM in encouraging green behavior is influenced by effective training and recognition systems for green initiatives, which are strengthened by leadership support.

Furthermore, Vu et al. (2025) explain that GHRM not only contributes to environmental efficiency but also encourages green innovation in the workplace, creating a conducive working atmosphere for creative ideas. Shahzad et al. (2025) show that GHRM has a direct or indirect effect on employees' green behavior through mediation such as work engagement and environmental capabilities. This is in line with the findings of Al-Swidi et al. (2021) who emphasized that GHRM strengthens organizational differentiation and creates a competitive advantage based on environmental values.

Farrukh et al. (2022) state that GHRM contributes to sustainable organizational value creation through employee empowerment, while Ababneh (2021) emphasizes the importance of continuous training to increase environmental awareness. Rashid et al. (2023) highlight the importance of a green indicator-based performance evaluation system that is aligned with rewards and recognition of environmentally friendly behavior.

In a strategic context, Shoaib et al. (2025) state that GHRM needs to be an integral part of the organization's overall strategy, not just the HR agenda. Gazi et al. (2025) reinforce this by showing that GHRM can increase employee green commitment if organizations show seriousness in its implementation. Ahmed et al. (2024) found that GHRM contributes to increased job satisfaction and employee commitment to sustainable goals, while Miah et al. (2024) add that inclusive and innovative GHRM practices are able to create a positive green organizational climate.

Aboramadan (2022) also underlines the importance of alignment between GHRM values and organizational culture for effective implementation, and Kaur et al. (2025) emphasize that support from top management is a key factor in the long-term success of GHRM. According to Shahzad et al., (2025) GHRM practices as a strategic resource that can help companies in innovating and implementing sustainability strategies, ultimately driving environmental performance and competitive advantage. The Resource-Based View serves as a theoretical lens on the practice of Green HRM can be a source of sustainable competitive advantage by building and leveraging unique and environmentally oriented human and organizational resources (Shahzad et al., 2025). GHRM Practices (such as green recruitment, green training, green compensation systems) are seen as valuable and scarce resources that can increase employee commitment, productivity, and innovation (Shoaib et al., 2025).

RESEARCH METHODOLOGY

This study employed a quantitative descriptive research design to examine the implementation of Green Human Resource Management (GHRM) and its role in supporting green business practices among Indonesian small and medium-sized enterprises (SMEs). A descriptive quantitative approach was adopted to provide a comprehensive overview of the extent to which GHRM practices have been implemented by SMEs and to describe the current condition of green business initiatives.

The target population consisted of SMEs operating in Indonesia, with data collected from SMEs located in Central Java. The unit of analysis was the organization, while the respondents were SME owners or managers who were considered the most knowledgeable individuals regarding their firms' human resource management practices and business operations. Data were collected through a structured questionnaire using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

A total of 406 valid questionnaires were obtained using a non-probability convenience sampling technique. The collected data were screened for completeness and consistency prior to analysis. Descriptive statistical analysis, including frequencies, percentages, means, and standard deviations, was employed to summarize the characteristics of the respondents and to describe the level of implementation of GHRM practices and green business activities among the participating SMEs.

The findings provide an empirical overview of the current adoption of GHRM and green business practices in Indonesian SMEs, offering practical insights for business owners, policymakers, and other stakeholders seeking to promote sustainable business development.

RESULTS AND DISCUSSION

In Table 1, the legal form of business chosen by the majority of respondents is a relatively simple form. Individual businesses were the most preferred with 194 businesses (41.3%), followed by Commanditaire Vennootschap (CV) with 167 businesses (41.1%). More complex forms of legal entities such as Limited Liability Companies (PT) were chosen by only 37 businesses (9.1%). This pattern is in accordance with the characteristics of MSMEs that prioritize convenience and flexibility at the beginning of operations.

Table 1. Characteristics of Respondents Based on Business Form, Business Location, Turnover

NO	KARAKTERISTIK RESPONDEN	KATEGORI	*FREQUENCY*	*PERCENTAGE* (%)
1.	Bentuk Usaha	Perorangan	194	41,3
		Commanditaire Vennootschap (CV)	167	41,1
		Perseroan Terbatas (PT)	37	9,1
		Yayasan	8	2

2.	Lokasi Usaha	Kab. Klaten	184	45,3
		Kab. Semarang	134	33
		Kota Semarang	1	0,2
		Kota Magelang	22	5,4
		Kota Surakarta	36	8,9
		Kota Tegal	29	7,1
3.	Omzet Tahunan	< 2 Miliar	262	64,5
		2.5 – 15 Miliar	116	28,6
		15 – 50 Miliar	28	6,9

Sumber: Data primer diolah tahun 2026

Geographically, the distribution of respondents' business locations (Table 1) is highly concentrated in two main regions. Klaten Regency was the most location with 184 businesses (45.3%), followed by Semarang Regency with 134 businesses (33%). Other cities such as Surakarta (8.9%), Tegal (7.1%), and Magelang (5.4%) followed with a smaller percentage. This concentration reflects the focus of the research sampling area according to what has been planned.

Table 1 also presents the annual turnover showing the dominance of micro and small businesses. Most of the businesses, namely 262 businesses (64.5%), have a turnover of less than 2 billion Rupiah per year. Businesses with medium turnover (2.5-15 billion) amounted to 116 (28.6%), while businesses with large turnover (15-50 billion) amounted to only 28 businesses (6.9%). This data confirms that the research sample is dominated by MSMEs with an annual turnover of less than IDR 2 billion. This condition shows that most of the respondents are micro and small-scale businesses that have limited financial resources compared to medium-scale businesses.

In addition to the characteristics of the respondents, the following will be the researcher describing the data on the variables of Green Human Resources Management, Employee Green Behavior, Employee Well-Being, Green Innovation Behavior, and Green Transformational Leadership that are studied. The results of the descriptive statistical test of the variable indicators in this study can be seen in Table 2.

Tabel 2. Deskripsi Data

Indikator	STS	SS	N	S	SS	*Mean*
GHRM1	33	25	5	170	173	4,05
GHRM2	31	33	6	174	162	3,99
GHRM3	21	42	10	182	151	3,99
GHRM4	23	37	9	202	135	3,96
GHRM5	38	24	7	200	137	3,92
GHRM6	27	34	10	194	141	3,96
GHRM7	35	22	12	185	152	3,98
GHRM8	40	15	6	188	157	4,00
GHRM9	35	17	14	174	166	4,03
GHRM10	32	25	13	183	153	3,99
GHRM11	26	30	16	199	135	3,95
GHRM12	33	18	19	191	145	3,98
GHRM13	28	31	9	195	143	3,97
Rata-Rata	3,98					

Sumber : Data primer diolah tahun 2026

Table 2 presents the results of descriptive statistical tests for indicators in the research variables, including Green Human Resources Management, Employee Green Behavior, Employee Well-Being, Green Innovation Behavior, and Green Transformational Leadership. This descriptive statistic includes mean, median, minimum value, max, and standard deviation based on data from 406 respondents. The Green Human Resources Management indicator shows an average value of 3.98.

CONCLUSION

Based on the results of the descriptive analysis, the characteristics of the respondents showed that most of the MSMEs in the research sample still use simple business forms, namely individual businesses and Commanditaire Vennootschap (CV), while the proportion of businesses with legal entities of Limited Liability Companies (PT) is relatively small. This indicates that the majority of respondents are MSMEs that prioritize ease of management and flexibility in running their businesses.

From the location aspect, respondents were concentrated in Klaten Regency and Semarang Regency in accordance with the research sampling design, so that the two regions became the main representation in this study. Meanwhile, based on annual turnover, the majority of respondents (64.5%) have a turnover of less than IDR 2 billion per year, which shows that the research sample is

dominated by micro and small enterprises with relatively limited resources compared to medium enterprises.

Furthermore, the results of descriptive statistics on the Green Human Resources Management (GHRM) variable showed an average value of 3.98 on a five-point Likert scale. This value indicates that respondents tend to give a positive assessment of the implementation of Green Human Resources Management practices in the MSMEs they lead. In general, the average of all indicators is in the range of 3.92–4.05, which indicates a relatively consistent perception that GHRM practices have been implemented fairly well. These findings provide an early picture that most of the MSMEs in the study have started to adopt human resource management practices that are oriented towards environmental sustainability, although the implementation rate can still be improved.

RECOMMENDATION

MSMEs need to systematically adopt and communicate Green Human Resources Management practices as a strategic foundation. Because GHRM has been proven to directly improve both green behavior (Employee Green Behaviour) and employee well-being (Employee Well-Being), its implementation is a double investment. Concrete practices that can be carried out include: (a) conducting regular environmental training that focuses on waste management, energy efficiency, waste reduction, and the use of environmentally friendly raw materials; (b) encourage employees to apply the results of the training in daily work activities through periodic mentoring and evaluation; (c) actively involve employees in the formulation of ideas, programs, and problem-solving related to environmental sustainability in the workplace; (d) building a green work culture through the provision of supporting facilities, such as waste sorting, water and energy saving, and the use of environmentally friendly products; (e) encourage green innovation by adopting more efficient technologies, implementing the concept of resource reuse, and developing recyclable products; and (f) increasing the role of Green Transformational Leadership through appreciating employees' green behavior and creating a work environment that encourages creativity and sustainable innovation. The implementation of these measures is expected to strengthen the organization's green culture, improve employee welfare, and support the sustainability and competitiveness of MSMEs in Central Java.

ACKNOWLEDGMENTS

The author gratefully acknowledges Sebelas Maret University for its support through the provision of research facilities, a conducive academic environment, and continuous encouragement, all of which contributed significantly to the successful completion of this study.

REFERENCES

Ababneh, O. M. A. (2021). How do green HRM practices affect employees' green behaviors? The role of employee engagement and personality attributes. *Journal of Environmental Planning and Management, 64*(7), 1204–1226. https://doi.org/10.1080/09640568.2020.1814708

Aboramadan, M. (2022). The effect of green HRM on employee green behaviors in higher education: the mediating mechanism of green work engagement. *International Journal of Organizational Analysis, 30*(1), 7–23. https://doi.org/10.1108/IJOA-05-2020-2190

Ahmed, Z., Khosa, M., Nguyen, N. T., Fahmi Omar Faqera, A., Kayode Ibikunle, A., & Raza, S. (2024). Double-edged sword effects of green HRM on employee organizational citizenship behavior for the environment: interactive effects and mediation mechanisms. *Business*

Process Management Journal, *30*(5), 1369–1398. https://doi.org/10.1108/BPMJ-11-2023-0889

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*(May). https://doi.org/10.1016/j.jclepro.2021.128112

Cahyadi, A., Natalisa, D., Poór, J., Perizade, B., & Szabó, K. (2023). Predicting the Relationship between Green Transformational Leadership, Green Human Resource Management Practices, and Employees' Green Behavior. *Administrative Sciences*, *13*(1). https://doi.org/10.3390/admsci13010005

Din, A. U., Yang, Y., & Zhang, Y. (2025). Acta Psychologica " The psychological benefits of green HRM : A study of employee well-being , engagement , and green behavior in the healthcare sector ." *Acta Psychologica*, *254*(February), 104823. https://doi.org/10.1016/j.actpsy.2025.104823

Faezah, J. N., Yusliza, M. Y., Chaudhary, R., Ramayah, T., & Fawehinmi, O. (2024). Green human resource management and employee ecological behaviour: the mediating role of green commitment. *Social Responsibility Journal*, *20*(6), 1157–1176. https://doi.org/10.1108/SRJ-07-2023-0399

Farrukh, M., Ansari, N., Raza, A., Wu, Y., & Wang, H. (2022). Fostering employee's pro-environmental behavior through green transformational leadership, green human resource management and environmental knowledge. *Technological Forecasting and Social Change*, *179*(January), 121643. https://doi.org/10.1016/j.techfore.2022.121643

Gazi, M. A. I., Masud, A. Al, Emon, M., Ibrahim, M., & Senathirajah, A. R. bin S. (2025). The triadic relationship between green HRM, innovation, and pro-environmental behaviour: a study of their interactions and impacts on employee productivity and organizational sustainability. *Environmental Research Communications*, *7*(1). https://doi.org/10.1088/2515-7620/ada676

Gyensare, M. A., Adomako, S., & Amankwah-Amoah, J. (2024). Green HRM practices, employee well-being, and sustainable work behavior: Examining the moderating role of resource commitment. *Business Strategy and the Environment*, *33*(4), 3129–3141. https://doi.org/10.1002/bse.3642

Kaur, M., Khan, N. A., Afzal, M., & Meraj, M. (2025). Green HRM and employees' green behaviour: the role of environmental concern as a moderator. *International Journal of Organizational Analysis*. https://doi.org/10.1108/IJOA-11-2024-5018

Miah, M., Rahman, S. M. M., Biswas, S., Szabó-Szentgróti, G., & Walter, V. (2024). Effects of green human resource management practices on employee green behavior: the role of employee's environmental knowledge management and green self-efficacy for greening workplace. *International Journal of Organizational Analysis*. https://doi.org/10.1108/IJOA-04-2024-4462

Rashid, W., Ghani, U., Khan, K., & Usman, M. (2023). If you care I care: role of Green Human Resource Management in employees green behaviors. *Cogent Business and Management*, *10*(1). https://doi.org/10.1080/23311975.2023.2189768

Shahzad, M. A., Wang, X., Li, Z., & Junaid, M. (2025). The nexus between green HRM, employee well-being, and

citizenship behavior: Exploring the mediating role of employee sustainability and motivation. *International Journal of Hospitality Management*, *126*(October 2023), 104053. https://doi.org/10.1016/j.ijhm.2024.104053

Shoaib, M., Qadeer, N., Zámečník, R., Javed, M., & Nawal, A. (2025). Towards a greener tomorrow: investigating the nexus of GHRM, technology innovation, and employee green behavior in driving sustainable performance. *Cogent Business and Management*, *12*(1). https://doi.org/10.1080/23311975.2024.2442095

Vu, T. D., Nguyen, T. T. N., Nguyen, H. N., & Nguyen, M. H. (2025). Sustainable management in the hospitality industry: the influence of green human resource management on employees' pro-environmental behavior and environmental performance. *Journal of Hospitality and Tourism Insights*. https://doi.org/10.1108/JHTI-09-2024-0912