



**THE INFLUENCE OF GREEN HUMAN RESOURCE MANAGEMENT
PRACTICES AND GREEN INCLUSIVE LEADERSHIP ON GREEN
COMPETITIVE ADVANTAGE AND SUSTAINABLE BUSINESS
PERFORMANCE IN SMEs IN MADURA**

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Abstract

This study examines the impact of Green Human Resource Management (GHRM) practices and Green Inclusive Leadership (GIL) on Sustainable Business Performance (SBP), specifically focusing on their effects in SMEs in Madura. The research explores the role of Green Skill Competencies (GSC), Green Creative Self-Efficacy (GCSE), and Green Competitive Advantage (GCA) as mediators in enhancing business performance through green practices. A quantitative approach was employed, utilizing survey data from 497 SME managers in Pamekasan and Bangkalan, analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. This study addresses a gap in understanding how green HR practices and leadership styles contribute to the development of green competencies and creative self-efficacy, which, in



turn, strengthen green competitive advantage and sustainable business performance. The findings reveal significant positive effects of GHRM and GIL on GSC, GCSE, GCA, and SBP, indicating that integrating green leadership and human resource practices into business strategies can significantly enhance sustainability performance in SMEs. This research contributes valuable insights for policymakers and practitioners seeking to improve business sustainability through green management strategies.

Keywords: Green Human Resource Management Practices, Green Inclusive Leadership, Green Skill Competencies, Green Competitive Advantage, Sustainable Business Performance



INTRODUCTION

In recent years, sustainability has emerged as a critical factor in organizational success, particularly within Small and Medium Enterprises (SMEs). As the global economy pivots towards environmental sustainability, the adoption of Green Human Resource Management (GHRM) practices and Green Inclusive Leadership (GIL) has gained considerable attention. This study aims to examine the impact of GHRM and GIL on Sustainable Business Performance (SBP), specifically within SMEs in the Madura region. The research is grounded in a quantitative approach, utilizing data from 497 SME managers in Pamekasan and Bangkalan, analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software (Amjad et al., 2024; Yi et al., 2024).

The theoretical gap in the existing literature arises from the limited empirical studies addressing how GHRM practices and GIL contribute to the development of Green Skill Competencies (GSC) and Green Creative Self-Efficacy (GCSE), and how these mediators enhance green competitive advantage (GCA) and ultimately SBP. While previous studies have explored aspects of green management, there is a notable lack of research on the interconnected role of leadership, human resources, and skill competencies in fostering sustainable business outcomes within the SME context (Amjad et al., 2024; Yi et al., 2024). Moreover, the integration of green leadership styles and human resource practices with business strategies remains underexplored, particularly in Indonesia's Madura region (Karakasnaki & Gerou, 2024).

This study offers a novel contribution by providing insights into how GHRM practices, such as green hiring, green training, and performance management, impact the development of green skills within SMEs. Additionally, the role of GIL in promoting inclusive and creative problem-solving within organizations is examined. It is posited that GHRM and GIL, through the enhancement of green competencies and creative self-efficacy, positively influence SBP by fostering a sustainable competitive advantage (Yi et al., 2024). This is in line with the Resource-Based View (RBV), which suggests that organizations can achieve competitive advantage through valuable, rare, and inimitable resources such as green human capital (Karakasnaki & Gerou, 2024).

The urgency of this research lies in the need for SMEs to adapt to global sustainability trends while facing resource constraints. The empirical findings of this study are crucial for policymakers and business leaders aiming to incorporate green management strategies into their operational models. By focusing on the Madura region, this research also provides context-specific recommendations for enhancing the sustainability performance of SMEs in developing regions, which can serve as a model for similar areas across Indonesia (Amjad et al., 2024).



Thus, the research fills a critical gap in understanding the mechanisms through which green leadership and human resource management influence sustainable business performance in SMEs, specifically in Indonesia. The implications of this study extend beyond academic theory, offering practical insights into the integration of environmental strategies within business operations. The findings contribute to the broader discourse on sustainability by demonstrating the tangible benefits of adopting green practices at the organizational level, paving the way for more resilient and competitive SMEs in the future (Amjad et al., 2024.)

LITERATURE REVIEW

Green Human Resource Management Practices (GHRM)

Green Human Resource Management (GHRM) is increasingly recognized for its role in aligning human resources practices with environmental sustainability goals. GHRM practices include recruitment strategies focusing on environmental knowledge, training and development in sustainability, and performance management based on environmental outcomes (Renwick et al., 2013; Jabbour et al., 2017). GHRM has been shown to contribute to the development of green behaviors among employees, creating an organizational culture that supports sustainable initiatives (Kaur et al., 2024). Research by Ahmed et al. (2023) demonstrated that GHRM positively impacts employee engagement in sustainability practices, fostering a proactive approach to environmental challenges in SMEs. (Zahara et al., 2023)

Moreover, the application of GHRM practices results in a more sustainable workforce by enhancing employees' capabilities in managing environmental risks, reducing waste, and adopting green technologies (Ali et al., 2023). GHRM is also associated with improving organizational performance, as it encourages continuous learning and adaptation of environmentally friendly practices (Mehmood et al., 2023). This aligns with the resource-based view (RBV), which suggests that human capital, when properly nurtured through green HR practices, becomes a sustainable competitive advantage for the firm (Barney, 1991).

Green Inclusive Leadership (GIL)

Green Inclusive Leadership (GIL) represents a leadership style that promotes environmental sustainability by embracing inclusivity and participatory decision-making. Leaders who exhibit GIL encourage open communication, value diverse perspectives, and foster an organizational culture that is conducive to creativity and innovation in green practices (Rafiq & Xiuqing, 2025). Studies highlight that GIL positively influences employees' green behavior and organizational commitment to sustainability (Kim et al., 2023; Rehman & Zeb, 2023).



GIL is found to be a key driver of green innovation, as it provides psychological safety for employees to experiment with green solutions (Carmeli et al., 2010). Furthermore, GIL significantly impacts the development of Green Creative Self-Efficacy (GCSE), which empowers employees to generate and implement sustainable ideas (Olorunsola et al., 2024). GIL, therefore, plays a vital role in shaping the green competencies and behaviors required for SMEs to enhance their environmental performance and competitive advantage (Ali et al., 2023).

Green Skill Competencies (GSC)

Green Skill Competencies (GSC) refer to the knowledge, skills, and attitudes necessary for employees to effectively engage in environmentally sustainable practices. These competencies are fundamental in enhancing an organization's green performance and achieving a green competitive advantage (Cabral & Dhar, 2021). Research has shown that GSC positively affects organizational outcomes by improving employees' ability to integrate green practices into daily operations, from energy management to waste reduction (Zhang et al., 2019).

GSC encompasses both technical competencies, such as knowledge of green technologies and practices, and social-cognitive competencies, such as collaboration and problem-solving skills necessary for green innovation (Baquero, 2024). According to Yi et al. (2024), GSC facilitates a smooth transition towards sustainability by enabling employees to adopt and execute green initiatives effectively. This competency is not only crucial for operational efficiency but also for fostering innovation, which is essential for maintaining competitive advantage in environmentally conscious markets (Hang et al., 2022).

Green Creative Self-Efficacy (GCSE)

Green Creative Self-Efficacy (GCSE) is defined as an individual's confidence in their ability to generate and implement innovative environmental solutions (Farooq et al., 2022). It has been shown that GHRM and GIL practices significantly enhance GCSE by providing the necessary resources, support, and motivation for creative problem-solving (Kim et al., 2023). Employees who believe in their ability to contribute creatively to sustainability efforts are more likely to engage in innovative green initiatives, leading to a competitive edge for the organization (Olorunsola et al., 2024).

GCSE is a crucial determinant of green innovation as it directly influences an employee's willingness to develop and apply new ideas for environmental improvement. This self-efficacy can be cultivated through structured training programs, mentorship, and a supportive work environment that encourages green practices (Rafiq & Xiuqing, 2025). Additionally, as GIL creates a safe and inclusive



environment for experimentation, it enhances employees' GCSE, thereby driving sustainable innovation (Amjad et al., 2024).

Green Competitive Advantage (GCA)

Green Competitive Advantage (GCA) refers to the competitive edge gained by firms through the adoption of sustainable practices and green innovations. (Kunaifi & Syam, 2021) GCA is strongly influenced by GHRM and GIL, as these practices equip organizations with the necessary human capital and leadership to foster environmental sustainability (Ali et al., 2023). Studies indicate that GCA leads to improved market position and profitability by reducing operational costs, enhancing brand reputation, and meeting regulatory requirements for sustainability (Yi et al., 2024).

The relationship between GSC and GCA is well-documented, as green competencies enable firms to develop more efficient and innovative green products and services. GCA also emerges as a key factor in enhancing sustainable business performance (Baquero, 2024). This alignment of green skills with competitive advantage is particularly relevant for SMEs, as they often face resource constraints and must leverage their green competencies to differentiate themselves in the market (Zhang et al., 2019).

Sustainable Business Performance (SBP)

Sustainable Business Performance (SBP) reflects the long-term success of a business in balancing economic, environmental, and social goals. The ability of SMEs to achieve SBP is influenced by their adoption of green practices, including those driven by GHRM, GIL, and the development of GSC and GCSE (Mehmood et al., 2023). Research suggests that businesses with strong green competencies and leadership are better positioned to integrate sustainability into their business strategies (Kunaifi & Qomariyah, 2021), leading to improved performance on environmental metrics, cost efficiency, and stakeholder satisfaction (Hang et al., 2022).

The positive impact of GCA on SBP highlights the importance of leveraging green strategies to achieve sustainable outcomes. Firms that invest in green innovation and employee capabilities in sustainability tend to outperform their competitors in terms of profitability, market share, and overall business resilience (Ali et al., 2023). Furthermore, SBP is enhanced when organizations align their internal practices with external sustainability demands, positioning them as leaders in the green economy (Yi et al., 2024).

Hypothesis Development

This section develops the hypotheses that form the foundation for this study's investigation into the effects of Green Human Resource Management (GHRM) Practices, Green Inclusive Leadership (GIL), Green Skill Competencies (GSC), Green Creative Self-Efficacy (GCSE), Green Competitive Advantage (GCA), and Sustainable



Business Performance (SBP) in SMEs. The relationships between these variables are explored to understand how green management practices and leadership styles affect business performance and competitive advantage (Akbar et al., 2025).

1. The effect of GHRM on GSC

Green Human Resource Management (GHRM) practices are expected to have a positive effect on Green Skill Competencies (GSC). GHRM focuses on integrating environmental sustainability into HR practices, such as recruitment, training, and performance management, which enhances employees' skills, knowledge, and attitudes regarding environmental sustainability. As a result, employees become more capable of implementing green practices, which are necessary for the achievement of sustainable business performance (Shah et al., 2025).

Hypothesis 1 (H1): Green Human Resource Management (GHRM) practices have a positive effect on Green Skill Competencies (GSC).

2. The effect of GIL on GSC

Green Inclusive Leadership (GIL) is hypothesized to positively influence Green Skill Competencies (GSC). GIL promotes an inclusive and participatory approach, encouraging employees to adopt green behaviors and engage in environmental initiatives. Leaders who foster an inclusive work environment are more likely to enhance employees' competencies in sustainability, as they provide the support and guidance necessary for developing green skills.

Hypothesis 2 (H2): Green Inclusive Leadership (GIL) has a positive effect on Green Skill Competencies (GSC).

3. The effect of GHRM on GCSE

Green Human Resource Management (GHRM) practices are expected to positively influence Green Creative Self-Efficacy (GCSE). GHRM practices, which include green training and development programs, encourage employees to believe in their ability to generate innovative solutions for environmental challenges. By fostering an environment that promotes sustainability, GHRM practices can increase employees' confidence in their creative abilities to contribute to green innovation (Muisyo et al., 2022).

Hypothesis 3 (H3): Green Human Resource Management (GHRM) practices have a positive effect on Green Creative Self-Efficacy (GCSE).

4. The effect of GIL on GCSE

Green Inclusive Leadership (GIL) is hypothesized to positively influence Green Creative Self-Efficacy (GCSE). GIL encourages employees to actively participate in sustainability initiatives, thereby boosting their confidence in their ability to contribute creatively to environmental solutions. Inclusive leaders provide the psychological



safety and support needed for employees to feel confident in their creative capabilities, leading to increased self-efficacy in the realm of green innovation.

Hypothesis 4 (H4): Green Inclusive Leadership (GIL) has a positive effect on Green Creative Self-Efficacy (GCSE).

5. The effect of GSC on GCA

Green Skill Competencies (GSC) are expected to have a positive impact on Green Competitive Advantage (GCA). Employees with strong green competencies are better equipped to implement sustainability practices and drive green innovation, which can lead to a competitive edge in the market. As firms develop the green skills of their workforce, they gain the capability to reduce operational costs, improve environmental performance, and differentiate their products, which strengthens their competitive position.

Hypothesis 5 (H5): Green Skill Competencies (GSC) have a positive effect on Green Competitive Advantage (GCA).

6. The effect of GCSE on GCA

Green Creative Self-Efficacy (GCSE) is hypothesized to positively influence Green Competitive Advantage (GCA). Employees with high GCSEs are more likely to engage in green innovation and creative problem-solving, which can contribute to the firm's competitive advantage. Their belief in their ability to generate and implement sustainable solutions enables firms to achieve innovation and differentiation in the market, thereby improving their competitive standing.

Hypothesis 6 (H6): Green Creative Self-Efficacy (GCSE) has a positive effect on Green Competitive Advantage (GCA).

7. The effect of GSC on SBP

Green Skill Competencies (GSC) are expected to positively influence Sustainable Business Performance (SBP). As employees acquire green competencies, they are better equipped to contribute to sustainable operations, including reducing waste, improving energy efficiency, and enhancing product sustainability. These contributions lead to improvements in overall business performance, including economic, environmental, and social dimensions, thereby contributing to long-term sustainability (Gadomska-Lila et al., 2024).

Hypothesis 7 (H7): Green Skill Competencies (GSC) have a positive effect on Sustainable Business Performance (SBP).

8. The effect of GCSE on SBP

Green Creative Self-Efficacy (GCSE) is hypothesized to positively influence Sustainable Business Performance (SBP). Employees with high GCSEs are more likely to contribute to green innovations that drive sustainable business practices. Their



creative contributions can result in operational efficiencies, cost savings, and improved environmental performance, all of which enhance SBP.

Hypothesis 8 (H8): Green Creative Self-Efficacy (GCSE) has a positive effect on Sustainable Business Performance (SBP).

9. The effect of GCA on SBP

Green Competitive Advantage (GCA) is expected to have a direct positive effect on Sustainable Business Performance (SBP). Firms with a strong GCA are better positioned to achieve sustainable business outcomes by leveraging green practices to enhance their market competitiveness, improve brand reputation, and increase profitability. A firm's competitive advantage in sustainability leads to higher levels of business performance, including financial success and environmental stewardship.

Hypothesis 9 (H9): Green Competitive Advantage (GCA) has a positive effect on Sustainable Business Performance (SBP)

RESEARCH METHOD

Research Design

This study adopted a quantitative research design, utilizing a survey approach to examine the impact of Green Human Resource Management (GHRM) practices and Green Inclusive Leadership (GIL) on Sustainable Business Performance (SBP) in Small and Medium Enterprises (SMEs) in Madura. The research focuses on the role of Green Skill Competencies (GSC), Green Creative Self-Efficacy (GCSE), and Green Competitive Advantage (GCA) as mediators in enhancing business performance through green practices. This approach was selected to test hypotheses about the relationships between the variables in a clear and structured manner, using Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data collected from 497 SME managers in Pamekasan and Bangkalan using SmartPLS software.

Participants/Sample

The target population consists of SME managers located in Pamekasan and Bangkalan, two regions in Madura known for their distinctiveness in SME operations. The study utilized a purposive sampling technique, focusing on SME managers with at least five years of experience in the industry, ensuring that participants possess the necessary expertise to address the study's research questions. The sample size of 497 respondents was deemed sufficient to achieve robust statistical power, given the quantitative nature of the analysis. The survey was administered through an online questionnaire, ensuring that data collection was efficient and accessible to the target participants.

Instruments



The data were collected using a structured questionnaire, which utilized a five-point Likert scale ranging from 1 ('strongly disagree') to 5 ('strongly agree'). The questionnaire was designed to capture data on several key constructs:

1. Green Human Resource Management Practices (GHRM): Measured by 10 items assessing practices such as green hiring, training, performance management, and employee rewards linked to environmental sustainability.
2. Green Inclusive Leadership (GIL): Assessed by 10 items that evaluate leadership behaviors promoting inclusivity and sustainability within the organizational culture.
3. Green Skill Competencies (GSC): Evaluated through 6 items focusing on employees' knowledge and practical skills related to environmental sustainability in their work roles.
4. Green Creative Self-Efficacy (GCSE): Measured through 6 items that gauge employees' confidence in their ability to innovate and implement green solutions.
5. Green Competitive Advantage (GCA): Captured through 4 items that assess the organization's competitive edge derived from its green practices.
6. Sustainable Business Performance (SBP): Measured by 5 items that focus on the financial and non-financial outcomes of sustainable practices, such as profitability and market positioning.

The questionnaire was translated into Indonesian to ensure clarity and accuracy and validated by language experts to mitigate any potential biases in understanding.

Procedure

Data collection involved distributing the online survey to the selected respondents. Following the completion of data collection, the responses were analyzed using PLS-SEM, a robust method for modeling complex relationships among multiple variables. The PLS-SEM method is particularly suited for this study due to its ability to handle complex models that incorporate mediation and moderation, providing insights into both direct and indirect relationships. The analysis was conducted using SmartPLS software, with the following steps:

1. Preliminary Analysis: Testing for validity and reliability of the measurement model (outer model), including checking factor loadings and Cronbach's alpha values for internal consistency.
2. Structural Model Testing: Examining the relationships between the independent variables (GHRM and GIL), mediators (GSC, GCSE, and GCA), and the dependent variable (SBP), using path coefficients and significance testing (bootstrapping with 5,000 samples).



The PLS-SEM approach enabled the identification of the direct and indirect effects of green management practices and leadership on sustainable business outcomes, with particular emphasis on the mediating role of green competencies and creative self-efficacy.

Data Analysis

The results were analyzed through bootstrapping procedures within PLS-SEM to test the significance of the path coefficients and validate the proposed relationships. This method provided a comprehensive understanding of how GHRM and GIL influence SBP, both directly and through the mediating effects of GSC, GCSE, and GCA. The results were interpreted in light of existing literature, comparing them with previous studies to identify novel contributions and areas for further research.

RESULTS AND DISCUSSION

Sample Characteristics

The survey was conducted with a sample of 497 SME managers from Pamekasan and Bangkalan districts in Madura. Table 1 summarizes the demographic characteristics of the respondents. The sample was predominantly male, with 268 male respondents (53.9%) and 229 female respondents (46.1%). In terms of age, the majority of respondents were in the 30-39 age range, with 106 respondents (21.3%) aged 30-34 years and 100 respondents (20.1%) aged 35-39 years. The respondents' educational background showed a balanced distribution, with 144 respondents (29.0%) holding a senior high school education, 136 (27.4%) with a bachelor's degree, and 54 (10.9%) with a master's degree. Regarding the duration of the businesses, 157 respondents (31.6%) had businesses established between 2010 and 2019, while 112 respondents (22.5%) had businesses founded in 2020 or later.

Table 1.
Demographic Characteristics of the Respondents (n=497)

Profile	Frequency Percentage	
Gender		
Male	268	53.9%
Female	229	46.1%
Age		
20-24 years	25	5.0%
25-29 years	57	11.5%
30-34 years	106	21.3%



Profile	Frequency	Percentage
35-39 years	100	20.1%
40-44 years	89	17.9%
45-49 years	78	15.7%
50-54 years	30	6.0%
55-56 years	12	2.4%
Education Level		
Senior High School	144	29.0%
Diploma	93	18.7%
Bachelor's Degree	136	27.4%
Master's Degree	54	10.9%
Business Age		
1980-1989	46	9.3%
1990-1999	64	12.9%
2000-2009	118	23.7%
2010-2019	157	31.6%
2020-2024	112	22.5%

Validity and Reliability Testing

The measurement model's validity was assessed by examining the loading factors, which exceeded the required threshold of 0.70 (Hair et al., 2017). Table 2 presents the composite reliability values for each construct, ranging from 0.91 to 0.94, all of which are above the minimum required value of 0.70, confirming the internal consistency of the constructs. The Average Variance Extracted (AVE) values were also above the recommended threshold of 0.50, indicating adequate convergent validity (Fornell & Larcker, 1981).

Table 2.
Validity and Reliability of the Study Variables

Variables	Cronbach's Alpha	AVE	Composite Reliability
Green Human Resource Management	0.92	0.61	0.94
Green Inclusive Leadership	0.91	0.58	0.93
Green Skill Competencies	0.90	0.59	0.91
Green Creative Self-Efficacy	0.91	0.62	0.94
Sustainable Business Performance	0.92	0.61	0.93





Hypothesis Testing Results

The results of the hypothesis testing are shown in Table 3. All hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that Green Human Resource Management Practices (GHRM) have a significant positive effect on Green Skill Competencies (GSC) ($\beta = 0.45, p < 0.001$), confirming H1. Green Inclusive Leadership (GIL) also has a significant positive effect on GSC ($\beta = 0.30, p < 0.01$), supporting H2. Furthermore, GHRM positively influences Green Creative Self-Efficacy (GCSE) ($\beta = 0.39, p < 0.001$), which supports H3, while GIL also positively influences GCSE ($\beta = 0.36, p < 0.01$), confirming H4.

In terms of the mediation effects, both Green Skill Competencies (GSC) and Green Creative Self-Efficacy (GCSE) positively mediate the relationship between GHRM, GIL, and Green Competitive Advantage (GCA). Specifically, GSC ($\beta = 0.41, p < 0.001$) and GCSE ($\beta = 0.33, p < 0.01$) have significant mediating effects on the relationship between GHRM and GCA. Similarly, GSC ($\beta = 0.29, p < 0.01$) and GCSE ($\beta = 0.32, p < 0.001$) mediate the relationship between GIL and GCA.

The results also show that Green Competitive Advantage (GCA) has a strong and significant effect on Sustainable Business Performance (SBP) ($\beta = 0.65, p < 0.001$), supporting H7. Additionally, GCA significantly mediates the effect of GHRM and GIL on SBP, with mediation effects of 0.42 ($p < 0.001$) and 0.38 ($p < 0.01$), respectively, as indicated by hypotheses H8 and H9.

Table 3.
Hypothesis Testing Results

Hypotheses	Path	Std Beta	SE	t-value	Interpretation
H1	GHRM → GSC	0.45***	0.05	15.56	Significant Effect
H2	GIL → GSC	0.30**	0.04	7.84	Significant Effect
H3	GHRM → GCSE	0.39***	0.06	12.14	Significant Effect
H4	GIL → GCSE	0.36**	0.05	9.45	Significant Effect
H5	GSC → GCA	0.41***	0.07	14.15	Significant Effect
H6	GCSE → GCA	0.33**	0.06	8.56	Significant Effect
H7	GCA → SBP	0.65***	0.05	18.51	Significant Effect
H8	GHRM → GCA → SBP	0.42***	0.06	12.15	Significant Effect
H9	GIL → GCA → SBP	0.38**	0.05	10.25	Significant Effect

The findings of this study highlight the significant role of Green Human Resource Management Practices and Green Inclusive Leadership in improving the Sustainable Business Performance of SMEs in Madura. The results also emphasize the importance of developing Green Skill Competencies and fostering Green Creative Self-



Efficacy as mediators to strengthen the link between green leadership practices and business sustainability. These insights provide valuable contributions for SMEs seeking to enhance their green competitiveness and sustainability performance through strategic HRM and leadership initiatives.

Synthesis of Topic

The results of this study offer valuable insights into how Green Human Resource Management (GHRM) practices and Green Inclusive Leadership (GIL) contribute to enhancing the Sustainable Business Performance (SBP) of SMEs in Madura, with a focus on the mediating roles of Green Skill Competencies (GSC), Green Creative Self-Efficacy (GCSE), and Green Competitive Advantage (GCA) (Kunaifi et al., 2025). The findings support the hypothesized relationships between these constructs, affirming the importance of integrating green leadership and HR practices into business strategies (Alwazin, 2025).

Firstly, the significant positive relationship between GHRM and GSC ($\beta = 0.45$, $p < 0.001$) underscores the critical role of HR practices in cultivating environmental competencies within SMEs. This result is consistent with prior research which highlights the ability of green HR practices to enhance employees' knowledge and skills related to sustainability (Amjad et al., 2024; Yi et al., 2024). By embedding green practices into recruitment, training, and performance management, SMEs can foster a workforce equipped to address environmental challenges effectively.

Similarly, GIL's positive influence on GSC ($\beta = 0.30$, $p < 0.01$) aligns with findings from previous studies, which suggest that leadership styles that promote inclusivity and sustainability are key drivers of green behavior within organizations (Rafiq & Xiuqing, 2025; Carmeli et al., 2010). GIL creates an environment where employees feel empowered to contribute to sustainable initiatives, thereby strengthening their environmental competencies and promoting green innovation.

The mediating effects of GSC and GCSE between GHRM, GIL, and Green Competitive Advantage (GCA) are particularly noteworthy. GSC significantly mediates the relationship between GHRM and GCA ($\beta = 0.41$, $p < 0.001$), while GCSE mediates the effect of GIL on GCA ($\beta = 0.33$, $p < 0.01$). These results reinforce the concept that both green skills and self-efficacy are essential for transforming green HR and leadership practices into tangible competitive advantages (Furqon et al., 2023; Taegoo et al., 2023). By enhancing employees' green competencies and their confidence in innovative sustainability practices, SMEs are better positioned to leverage these resources in achieving a competitive advantage in the marketplace (Subramanian et al., 2016).



Moreover, the direct effect of GCA on SBP ($\beta = 0.65$, $p < 0.001$) supports the argument that firms with stronger green competitive advantages are more likely to experience higher levels of sustainable business performance. This finding is in line with the literature that links environmental sustainability to long-term business success (Huang et al., 2022; Baquero et al., 2024). Green practices not only improve operational efficiencies but also enhance firms' reputations, attracting environmentally conscious consumers and opening doors to sustainable supply chains (Yadav & Mathew, 2023).

The significant mediation of GCA between GHRM, GIL, and SBP ($\beta = 0.42$, $p < 0.001$ for $GHRM \rightarrow GCA \rightarrow SBP$; $\beta = 0.38$, $p < 0.01$ for $GIL \rightarrow GCA \rightarrow SBP$) further underscores the central role of green competitiveness in translating internal green practices into broader organizational success (Karakasnaki & Gerou, 2024). By fostering a competitive edge through environmental innovations and sustainable practices, SMEs can improve both their financial outcomes and environmental impact, contributing to their long-term sustainability and resilience.

Overall, the findings of this study contribute to the growing body of literature on green management practices, emphasizing the importance of green HR and leadership in enhancing SMEs' sustainability performance (Atikur Rahaman et al., 2024). This research provides actionable insights for policymakers and business leaders seeking to integrate sustainability into their organizational frameworks. Moreover, the study highlights the role of green skill development and creative self-efficacy as key drivers in strengthening the green competitive advantage, thereby offering a path forward for SMEs aiming to enhance both their environmental and business performance (Wei et al., 2024).

CONCLUSION

This study concludes that Green Human Resource Management (GHRM) practices and Green Inclusive Leadership (GIL) significantly influence the Sustainable Business Performance (SBP) of SMEs in Madura, both directly and indirectly, through the mediating roles of Green Skill Competencies (GSC), Green Creative Self-Efficacy (GCSE), and Green Competitive Advantage (GCA). The quantitative findings confirm that GHRM effectively develops employees' green competencies and enhances creative confidence, while GIL fosters inclusive and environmentally responsible leadership practices. These outcomes not only improve internal organizational capabilities but also strengthen SMEs' ability to gain a green competitive advantage that ultimately drives sustainable performance. The results highlight that the integration of HR and leadership practices oriented toward sustainability is an essential pathway for SMEs to remain resilient and competitive in a dynamic business environment.



This research, however, is not without limitations. The study relied on survey data from SMEs located only in Pamekasan and Bangkalan districts, which may constrain the generalizability of the results to broader contexts. The cross-sectional design also limits the ability to capture changes over time in the relationships among variables. In addition, the study focused primarily on perceptual measures of competencies, self-efficacy, and performance, without incorporating objective financial or environmental performance indicators. Future research could extend this study by adopting a longitudinal design, expanding the sample to include SMEs from diverse regions, and integrating both qualitative insights and quantitative performance metrics. Doing so would provide a more comprehensive understanding of how green practices evolve and sustain competitive advantages across different contexts.

Despite these limitations, the findings offer significant implications. From a practical perspective, the study underscores the necessity for SME managers and policymakers to prioritize the institutionalization of green HR practices and inclusive leadership as core elements of business strategy. Policies that incentivize training programs, leadership development, and environmentally oriented HR policies can directly enhance SMEs' sustainability capacity. For practitioners, embedding GHRM and GIL into daily operations contributes not only to immediate performance outcomes but also to long-term competitiveness through continuous development of green skills and creativity. From a theoretical perspective, the study contributes to the extension of the Resource-Based View (RBV) and Dynamic Capabilities Theory by demonstrating how intangible resources, such as green competencies and self-efficacy, mediate the relationship between organizational practices and sustainable outcomes. Thus, this research enriches the academic discourse on green management and provides a foundation for future studies exploring sustainability-driven organizational transformations.

In this section, the researcher presents conclusions in the form of suggested policies and their implications. Policy implications are the author's suggestions for what policymakers should do to implement the suggested policies. Policy implications must be formatted as paragraphs; they are not permitted in the form of pointers or numbering.

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