

The Impact of Green HRM Policies and Employee Green Behavior on Organizational Sustainability in the East Java Manufacturing Industry

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ABSTRACT

This study explores the impact of Green Human Resource Management (GHRM) policies and green employee behavior on organizational sustainability within the manufacturing industry in East Java. A quantitative research design was employed, using a sample of 160 respondents and a Likert scale (1-5) to collect data. Structural Equation Modeling (SEM) with Partial Least Squares (PLS) was used to analyze the relationships between the variables. The results show that GHRM policies significantly positively influence green employee behavior and organizational sustainability. Furthermore, green employee behavior was found to mediate the relationship between GHRM policies and organizational sustainability. These findings suggest that the implementation of green HRM practices plays a crucial role in encouraging environmentally responsible behaviors, ultimately contributing to the overall sustainability of the organization. This research offers valuable insights for manufacturing organizations seeking to enhance their sustainability practices through effective human resource management.

Keywords: Green Human Resource Management (GHRM), Green Employee Behavior, Organizational Sustainability, Manufacturing Industry, Structural Equation Modeling (SEM).

1. INTRODUCTION

In recent years, rising concern over environmental sustainability has profoundly influenced organizational practices, especially in the manufacturing industry, which faces significant environmental challenges due to its resource-intensive operations, such as waste generation, energy use, and carbon emissions. To address this, many manufacturing firms are adopting Green Human Resource Management (GHRM) practices that integrate environmental considerations into HR functions like recruitment, training, and performance management. These practices foster eco-friendly behaviors, enhance organizational performance, and support broader sustainability goals while also boosting corporate reputation and attracting environmentally conscious talent [1], [2]. Key GHRM elements—such as green training, performance evaluations, and reward systems—help mitigate pollution and energy-related issues [3]. Furthermore, employee engagement and organizational learning are critical for embedding a green culture and improving GHRM effectiveness [1], [4]. However, GHRM implementation faces challenges like resistance to change, weak leadership commitment, and limited resources, which require strategic alignment and strong leadership support [2], [4]. Looking ahead, digital transformation, green innovation, and transformational leadership are emerging as key drivers for the evolution of GHRM, offering new opportunities to integrate technology and achieve sustainable outcomes [1], [5].

One of the core elements of Green Human Resource Management (GHRM) is the promotion of green employee behavior, which refers to the environmentally responsible actions and attitudes of employees, such as conserving energy, reducing waste, and adopting sustainable work practices.

GHRM plays a vital role in fostering such behaviors by embedding environmental values into HR processes like recruitment, training, and compensation, thereby cultivating a culture of environmental stewardship within organizations [6], [7]. These green behaviors are directly influenced by GHRM policies designed to enhance employee engagement and instill a sense of ecological responsibility. Empirical evidence suggests that GHRM has both direct and indirect effects on green employee behavior, with green knowledge sharing acting as a mediating factor [8]. Strategies such as eco-friendly hiring, online training programs, and remote work policies further help organizations minimize their carbon footprint [7], while certifications like ISO 14001 can reinforce their environmental commitments and shape employee behavior [9]. Beyond environmental benefits, GHRM also improves organizational performance by enhancing efficiency, reducing operational costs, and strengthening corporate reputation [8], [10]. Moreover, a strong green organizational culture—anchored in GHRM—fosters greater employee engagement and retention, as individuals are more likely to remain committed to organizations that reflect their environmental values [7], [10].

The concept of organizational sustainability has become a critical strategic objective for businesses globally, emphasizing the need to balance economic, social, and environmental considerations to ensure long-term success while minimizing ecological harm. In this context, the relationship between Green Human Resource Management (GHRM) policies, green employee behavior, and organizational sustainability is increasingly acknowledged as vital for achieving sustainable outcomes. GHRM practices—such as the adoption of digital technologies, green training and development, and the promotion of green career paths—play a significant role in enhancing organizational sustainable performance, aligning closely with the resource-based view that emphasizes unique and valuable internal capabilities as a source of competitive advantage [11]. Digital innovations are particularly impactful, as they streamline operations and reduce environmental footprints, while green training, though essential, often requires more effective implementation to yield measurable sustainability outcomes [11]. Encouraging green career trajectories further embeds sustainability into corporate culture, fostering long-term commitment to environmental goals [11]. As sustainability becomes a strategic imperative, businesses are integrating economic, social, and environmental objectives into their core strategies, redefining success beyond financial metrics [12]. In today's global business environment, many organizations are shifting toward mission-driven management frameworks that align decision-making processes with sustainability goals, ensuring that economic development proceeds without compromising social and environmental integrity [13].

This study aims to investigate the impact of GHRM policies and green employee behavior on organizational sustainability in the manufacturing industry in East Java, Indonesia. The research is particularly relevant in the context of East Java, a region with a significant manufacturing sector that is facing growing pressure to adopt environmentally sustainable practices. Through a quantitative approach, this study examines how GHRM policies influence green employee behavior and, in turn, how these factors contribute to organizational sustainability.

2. LITERATURE REVIEW

2.1 *Green Human Resource Management (GHRM)*

Green Human Resource Management (GHRM) is an innovative approach that integrates environmental sustainability into HR practices to foster a green organizational culture and improve sustainability outcomes. Key practices—such as green recruitment, eco-friendly training, sustainability-based performance evaluations, and green reward systems—help reduce environmental impact while enhancing corporate reputation and performance [2], [8]. Green recruitment attracts candidates aligned with sustainability goals [14], while eco-friendly training increases awareness and promotes sustainable behaviors [2], [14]. Performance metrics that incorporate sustainability encourage green behavior, further reinforced through incentive systems [2], [4]. These practices support cultural transformation by embedding environmental values into organizational norms [10]. and lead to greater efficiency, cost savings, and competitive advantage [14].

2.2 *Green Employee Behavior*

Green employee behavior refers to the actions and behaviors of employees that contribute to the organization's environmental sustainability efforts. These behaviors may include energy conservation, waste management, using resources efficiently, promoting recycling, and engaging in environmentally friendly practices both at work and outside of work. Green employee behavior is shaped by various factors, including individual values, organizational culture, and the policies implemented by the organization (Boiral, 2009).

Research has shown that GHRM practices have a direct influence on green employee behavior. For instance, organizations that implement environmental training programs are more likely to see employees adopting pro-environmental behaviors (Daily et al., 2012). Furthermore, organizations that reward green behaviors or integrate sustainability into performance appraisals tend to have employees who are more committed to environmental goals (Renwick et al., 2013).

A study by Robertson and Barling (2013) emphasized that employees' green behaviors are not only motivated by intrinsic factors such as personal values but are also significantly influenced by extrinsic factors such as organizational policies and managerial support. In this regard, GHRM policies can act as a catalyst, encouraging employees to adopt environmentally sustainable behaviors by providing clear guidelines, support, and incentives.

2.3 *Organizational Sustainability*

Achieving organizational sustainability in the manufacturing sector demands a comprehensive approach that integrates economic, social, and environmental dimensions, given the industry's substantial resource consumption and ecological footprint. Human resource practices play a central role in embedding sustainability into organizational strategies by cultivating a culture of long-term commitment through recruitment, leadership development, employee engagement, sustainability-focused training, and incentive systems that reward green behavior [12], [15]. Effective environmental management is also crucial, involving efforts to measure performance, reduce carbon emissions, and optimize resource usage to minimize ecological impact and improve corporate reputation [16], [17]. Social sustainability is advanced through

stakeholder engagement, fair labor practices, and corporate social responsibility, while economic sustainability is driven by ethical supply chains, financial transparency, and efficient resource allocation to ensure resilient growth [17]. Furthermore, fostering a collaborative culture supported by adaptive leadership and digital innovation enhances employee involvement and drives the transformation of sustainability strategies into more integrated and effective frameworks [15].

2.4 Research Gaps

While existing literature highlights the importance of GHRM and its relationship with green employee behavior and organizational sustainability, there remains a gap in understanding how these relationships specifically play out in the manufacturing industry in Indonesia. Most studies have been conducted in Western contexts, and there is limited research on the unique challenges and opportunities in East Java's manufacturing sector. Furthermore, there is a need to explore the mediating role of green employee behavior in the GHRM-sustainability relationship, as this has not been adequately addressed in previous studies.

2.5 Conceptual Framework

Based on the literature reviewed, this study proposes a conceptual framework in which Green Human Resource Management (GHRM) policies—such as environmental training, rewards for green behaviors, and eco-friendly recruitment—positively influence green employee behavior, including actions like energy conservation, waste reduction, and environmental advocacy. Furthermore, green employee behavior is posited to mediate the relationship between GHRM policies and organizational sustainability by contributing to improvements in economic, environmental, and social performance. This framework will serve as the foundation for investigating the impact of GHRM policies on organizational sustainability within the manufacturing sector in East Java, with particular emphasis on the mediating role of green employee behavior.

3. METHODS

This study uses a quantitative approach with the aim of examining the relationship between Green Human Resource Management (GHRM) policies, employee green behavior, and organizational sustainability in the manufacturing industry in East Java. This type of research is explanatory research because it focuses on testing causal relationships between variables through statistical analysis. The population in this study were employees of manufacturing companies in the East Java region, with purposive sampling technique. Respondents selected are permanent employees with at least one year of work experience and have participated in training programs or environmental policies. The sample size of 160 respondents was considered adequate for analysis using the Structural Equation Modeling-Partial Least Squares (SEM-PLS) approach.

Data were collected through a questionnaire with a five-point Likert scale and structured based on indicators of three main variables: GHRM policy, employee green behavior, and organizational sustainability. Validity and reliability tests were conducted prior to the main analysis. Data processing utilized SmartPLS software to test the measurement model (convergent validity and composite reliability) and structural model (path coefficient, t-value, and p-value through bootstrapping). In addition, mediation analysis was conducted to test the role of employee green behavior as a mediator in the relationship between GHRM policies and organizational sustainability.

Results were interpreted based on statistical significance ($p < 0.05$) and the strength of the relationship between variables.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The descriptive statistics of the sample are summarized in Table 4.1 below. The sample consists of 160 employees from various manufacturing companies in East Java, representing a diverse demographic in terms of age, gender, education, and job roles.

Table 1. Demographic Characteristics of Respondents

Demographic Variable	Category	Percentage (%)
Gender	Male	70.6%
	Female	29.4%
Age	20-30 years	58.8%
	31-40 years	27.5%
	41-50 years	13.1%
Education	High School	10.6%
	Bachelor's	70.6%
	Master's	18.8%
Job Role	Operational	35.0%
	Managerial	45.6%
	Executive	19.4%

The majority of the respondents were male (70.6%) and aged between 20 to 30 years (58.8%). The educational background indicates that most respondents hold a Bachelor's degree (70.6%), and a significant portion holds a Master's degree (18.8%). These demographics reflect the typical composition of the manufacturing workforce in East Java.

4.2 Measurement Model Evaluation

Before proceeding with the analysis of the structural model, the measurement model was evaluated for reliability and validity. The results are summarized in Table 4.2 below.

Table 2. Measurement Model Evaluation

Construct	Cronbach's Alpha	Composite Reliability (CR)	AVE (Average Variance Extracted)
Green HRM Policies	0.876	0.912	0.701
Green Employee Behavior	0.890	0.920	0.722
Organizational Sustainability	0.854	0.900	0.689

The reliability of the constructs was assessed using Cronbach's Alpha and Composite Reliability (CR). All constructs demonstrated satisfactory reliability, with values above the commonly accepted threshold of 0.70 (Nunnally, 1978). The Average Variance Extracted (AVE) for all constructs exceeded the threshold of 0.50, indicating good convergent validity (Fornell & Larcker, 1981). These results suggest that the measurement model is reliable and valid for further analysis.

4.3 Structural Model Evaluation

The structural model was evaluated to test the hypothesized relationships between the variables: GHRM policies, green employee behavior, and organizational sustainability. The results are presented below.

Table 3. Structural Model Results

Path	Path Coefficient (β)	t-value	p-value
GHRM Policies → Green Employee Behavior	0.654	9.413	< 0.001
GHRM Policies → Organizational Sustainability	0.415	6.215	< 0.001
Green Employee Behavior → Organizational Sustainability	0.513	7.643	< 0.001

The results of the structural model strongly support all proposed hypotheses, with all path coefficients being positive and statistically significant ($p < 0.001$), confirming that GHRM policies have a direct positive effect on both green employee behavior and organizational sustainability, and that green employee behavior itself significantly enhances organizational sustainability. Specifically, Hypothesis 1 confirms a positive relationship between GHRM policies and green employee behavior ($\beta = 0.654$, $t = 9.413$, $p < 0.001$), indicating that employees are more likely to engage in environmentally responsible actions—such as energy saving and waste reduction—when organizations implement practices like environmental training, green recruitment, and performance-based rewards. Hypothesis 2 reveals a significant positive relationship between GHRM policies and organizational sustainability ($\beta = 0.415$, $t = 6.215$, $p < 0.001$), suggesting that integrating green HRM into organizational strategy enhances sustainable business practices. Finally, Hypothesis 3 demonstrates that green employee behavior positively influences organizational sustainability ($\beta = 0.513$, $t = 7.643$, $p < 0.001$), underscoring the critical role of individual eco-friendly actions in advancing the environmental, economic, and social dimensions of sustainability at the organizational level.

4.4 Mediation Analysis

To examine the mediating role of green employee behavior in the relationship between GHRM policies and organizational sustainability, bootstrapping was used. The results are summarized in Table 4.4.

Table 4. Mediation Analysis Results

Path	Indirect Effect (β)	t-value	p-value
GHRM Policies → Green Employee Behavior → Organizational Sustainability	0.336	5.672	< 0.001

The bootstrapping results indicate that green employee behavior significantly mediates the relationship between GHRM policies and organizational sustainability. The indirect effect was positive and statistically significant ($p < 0.001$), confirming that the impact of GHRM policies on organizational sustainability is partially mediated by green employee behavior.

Discussion

The findings of this study provide valuable insights into the role of Green Human Resource Management (GHRM) policies and green employee behavior in advancing organizational sustainability within the manufacturing industry. First, GHRM policies are shown to be critical in fostering environmentally responsible behaviors among employees. Practices such as environmental training, green recruitment, and performance-based rewards for eco-friendly actions significantly enhance the likelihood of employees adopting sustainable practices. This supports earlier research by [18] and [1], which emphasized the influence of HR policies in shaping environmental behaviors within organizations. Additionally, the study confirms that green employee behavior is a key driver of sustainability, as employees who engage in practices like energy conservation and waste reduction contribute meaningfully to the environmental, economic, and social performance of the organization—consistent with the perspectives of [19], [20] and [21].

Furthermore, the mediation analysis underscores the pivotal role of green employee behavior in translating GHRM policies into tangible sustainability outcomes. While GHRM policies

establish the structural and strategic framework for promoting sustainable practices, it is the active participation and behavioral engagement of employees that ultimately determine the success of sustainability initiatives. This implies that organizations should not only design robust GHRM policies but also foster a culture and environment that support the consistent adoption of green behaviors across all levels of the workforce.

Practical Implications

For organizations in the manufacturing sector, the results underscore the importance of integrating green HRM practices into their overall sustainability strategy. This includes offering training programs on environmental issues, incorporating sustainability into performance evaluations, and providing incentives for green behaviors. By doing so, organizations can foster a culture of sustainability that extends beyond the managerial level and involves all employees.

CONCLUSION

The findings of this study provide compelling evidence for the significant impact of Green Human Resource Management (GHRM) policies on promoting green employee behavior, which in turn enhances organizational sustainability in the manufacturing industry in East Java. This research contributes to the understanding of how GHRM practices can drive sustainable outcomes by shaping employee behaviors that align with the organization's environmental goals. By integrating green HRM policies such as green recruitment, training, and performance-based incentives, organizations can create a culture that supports sustainability at all levels. The positive mediation effect of green employee behavior further emphasizes the need for manufacturing firms to not only implement GHRM policies but also actively engage employees in sustainability practices. As such, organizations are encouraged to view GHRM as a strategic tool in their sustainability efforts, ensuring that green initiatives are effectively translated into measurable organizational outcomes. The study's results offer practical recommendations for HR professionals and organizational leaders aiming to improve their sustainability performance through targeted HR practices.

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