



## **Effect of Green Transformational Leadership on Organizational Environmental Performance: The Role of Green Human Resource Management Practices (Study on SMEs in The Embroidery Sector)**

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### **ABSTRACT**

Every organization must actively engage in environmental sustainability efforts by incorporating practices that prioritize the careful selection and maintenance of eco-friendly inputs, processes, and outputs within their business operations. However, empirical research on the specific influence of Green Transformational Leadership (GTL) on Organizational Environmental Performance is lacking, particularly within the Small Medium Enterprises (SMEs) of the embroidery sector in Indonesia. This study aims to address this gap by examining the direct and indirect effects of GTL, utilizing Green Human Resources Management (GHRM) practices as a potential mediator in the context of Indonesian SMEs specializing in embroidery. The research, conducted on 300 employees from 150 SMEs in the prominent embroidery industry of 20 city/regency areas in East Java, employs a Structural Equation Model of Partial Least Squares (SEM-PLS). Findings show a statistically significant positive influence of GTL on Organizational Environmental Performance directly, with GHRM practices partially mediating this relationship. Bridging this research gap not only contributes to academic knowledge but also offers practical insights for organizations seeking to enhance their environmental sustainability.

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## INTRODUCTION

Over the last five years, there has been a discernible shift in the research focus of Human Resource Management (HRM) from conventional studies to an environmentally-oriented perspective, emphasizing alignments with and concerns for environmental sustainability. Scholars such as Leroy et al. (2018) and O'Donohue et al. (2016) advocate that every organization should actively engage in and prioritize environmental sustainability in their business practices. This involves a commitment to the meticulous selection and management of environmentally friendly inputs, processes, and outputs.

In response to environmental challenges and the mounting pressure from stakeholders, organizations are urged to adopt serious and comprehensive measures to integrate environmentally friendly practices into their management strategies. This necessitates determined efforts from all facets of the organization and the broader community, emphasizing the importance of heightened awareness and a proactive commitment to environmental sustainability. (Zsóka et al. (2013); Zhou et al. (2018); Yu et al., 2015; Chen dan Chang, 2013).

The commitment is in alignment with the global development agenda of Sustainable Development Goals (SDGs), the overarching aim is to eradicate poverty, enhance prosperity, and safeguard the planet by achieving 17 goals by the year 2030. These 17 SDGs are categorized into four pillars: the first pillar, known as the Social Development pillar, encompasses Goals 1, 2, 3, 4, and 5. The second pillar, focusing on Economic Development, includes Goals 7, 8, 9, 10, and 17. The third pillar, dedicated To Environmental Development, incorporates Goals 6, 11, 12, 13, 14, and 15. The fourth pillar encompasses Legal and Governance Development and involves the pursuit of Goal 16. This systematic classification provides a structured framework for addressing and comprehensively understanding the diverse objectives embedded within the Sustainable Development Goals.

In Indonesia, the execution of the SDGs is codified at the national level through Presidential Regulation of the Republic of Indonesia Number 111 of 2022, specifically addressing the Implementation of the Achievement of Sustainable Development Goals. This regulatory framework delineates the overarching objectives of the SDGs, encompassing the sustained enhancement of economic well-being within the community, the preservation of social life sustainability, the safeguarding of environmental quality, and the facilitation of inclusive development. Furthermore, the regulation underscores the imperative of governance that can perpetuate advancements in the quality of life across successive generations.

The commitment to achieving sustainable development goals involves multiple stakeholders, encompassing government and non-government entities at national, regional, and local levels, with top management leaders serving as primary stakeholders. The significance of top management or leaders in maintaining, nurturing, and enhancing organizational environmental performance is crucial, given their authority in formulating strategies, policies, and programs that directly or indirectly impact environmental outcomes (Kura, 2016; Mittal et al., 2015; Mittal et al., 2016; Leroy et al., 2018). Leaders serve as inspirations and role models for employees, influencing their mindset, attitude, and behavior. Leaders with awareness and concern for environmental sustainability play a pivotal role in shaping their employees' perspectives. Thus, highlighting Green Transformational Leadership (GTL) as a central theme and Green Human Resources Management (GHRM) as an antecedent within the context of organizational environmental performance emerges as both important and relevant in scholarly discussions (Northouse, 2015; Lievens, 2015; Chen and Chang, 2013; Jia et al., 2018; Robertson and Barling; Afsar et al., 2016; Jia et al., 2018).

In the context of transformational leadership, leaders conceptualize a compelling vision and foster an environment that motivates employees to surpass conventional expectations, thereby instigating organizational change efforts. Additionally, GTL extends the principles of transformational leadership to the realm of environmental protection, serving as a catalyst for subordinates to surpass predefined environmental objectives (Chen and Chang, 2013). The influence of GTL on GHRM practices within organizations is notable, given that leaders hold the authority to determine the nature of HRM practices, their application methodologies, and the measures employed for evaluation. This alignment is consistent with findings by Pham et al. (2019), Tang et al. (2018), Lülfs and Hahn (2013), and Bin Saeed et al. (2018), wherein GHRM practices emerge as an intervening variable in the correlation between GTL and organizational environmental performance.

Furthermore, Jabbour et al. (2013) and Haque (2017) assert a direct connection between environmental management practices and HRM, emphasizing that the latter serves as both the lifeblood of the organization and a facilitator of environmental management success. Empirical evidence from prior research (see Ng (2017), Kura

(2016), Dubey et al. (2015), and Graves et al. (2013)) corroborates the significance of GHRM practices in the correlation between GTL and organizational environmental performance.

The preceding discussion on environmental management practices underscores the critical need for meticulous efforts to address contemporary environmental challenges. Numerous environmental challenges in Indonesia, particularly within the Small Medium Enterprises (SMEs) sector, exhibit associations with specific governmental policies or alignment with SDGs. Several illustrative instances encompass:

1. **Resource Depletion and Pollution:**  
SMEs in Indonesia contribute significantly to environmental predicaments, including the depletion of non-renewable resources, over-exploitation of renewable resources, and pollution arising from inadequate wastewater treatment.
2. **Climate Change and Sustainability:**  
SMEs in Indonesia emerge as notable contributors to greenhouse gas emissions, exacerbating climate change. Nevertheless, they possess the potential to play a pivotal role in addressing sustainability challenges and facilitating the achievement of national climate objectives.
3. **Waste Management:**  
Indonesia confronts a substantial waste predicament, grappling with 11 million tons of unmanaged waste. SMEs can actively contribute to waste management solutions through the adoption of sustainable practices aimed at reducing waste generation.
4. **Sustainable Business Practices:**  
SMEs in Indonesia wield the potential to advocate for sustainable practices across diverse sectors, encompassing manufacturing, agriculture, and services. Their contributions can extend to aligning with SDGs, thereby fostering environmental innovations and fostering economic growth.
5. **Digital Economy and Sustainability:**  
The rapid expansion of the digital economy in Indonesia has engendered heightened energy consumption and environmental ramifications. SMEs, as key stakeholders, possess the capacity to mitigate their carbon footprint by implementing sustainable practices and integrating digital solutions.

In light of these environmental challenges, concerted efforts by the Indonesian government and other stakeholders are imperative. Support mechanisms, including incentives, resources, and policies, should be extended to SMEs, promoting sustainable practices, effective waste management, and initiatives such as waste-to-energy. This collaborative approach is paramount in advancing Indonesia's climate objectives and steering the nation towards a more environmentally sustainable trajectory.

This potential becomes particularly pronounced when examining SMEs where, regrettably, a notable lack in environmental sustainability practices persists, revealing a crucial gap between environmental ideals and the current operational realities within these organizations. A substantial number of SMEs exhibit a notable lack of commitment to environmental sustainability, a phenomenon attributed to factors such as diminished awareness, concern, willingness, motivation, and capacity among both management and employees. This deficiency in awareness is not limited to the internal dynamics of the companies but extends to external influences, encompassing both company stakeholders and the broader customer base, particularly within developing nations such as Indonesia. Martins et al. (2022) states that sustainability practices within most SMEs are predominantly informal and lack integration into their overall business strategy. This observation underscores a notable absence of concern for environmental sustainability, necessitating heightened awareness and concerted efforts from both internal and external stakeholders associated with SMEs. This collective endeavor is imperative for addressing progressively intricate and hazardous environmental challenges, as highlighted by Boiral et al. (2014), Arizona and Scholars (2017), and Zulfikar (2019). Furthermore, the work of Arizona and Suarjana (2017) supplements this perspective by indicating that actors within MSMEs do exhibit a genuine interest in environmental matters. However, their lack of clarity regarding environmental costs and Green Accounting mechanisms presents a significant barrier to the effective implementation of environmentally responsible practices. The demand of addressing increasingly intricate and unsafe environmental challenges imposes intensive efforts marked by meticulousness, awareness, and maximal commitment from all stakeholders involved (Boiral et al., 2014).

Therefore, in contemporary business environments, the imperative for SMEs, to adopt pro-environmental practices is increasingly recognized. Despite this recognition, there is a persistent challenge in translating awareness into effective, sustainable actions. This problem is exacerbated by the insufficient integration of GTL at the top management level, wherein leaders play a pivotal role in shaping and implementing environmentally responsible business practices. The role of GTL as a central theme becomes crucial, given its potential influence on organizational behavior and culture. Furthermore, the antecedent role of Green Human Resources Management (GHRM) practices in fostering environmentally friendly actions within SMEs adds complexity to this issue. Hence, there is a critical need to investigate the barriers and facilitators associated with the integration of GTL, with a focus on the role of top management and the antecedent impact of GHRM, to bridge the gap between pro-environmental awareness and its effective implementation in SMEs' business practices.

Given the significance of pro-environmental management practices and the discernible deficiency in environmental sustainability measures within the domain of SMEs, the principal aim of this study is to investigate the impact of GTL on Organizational Environmental Performance, both through direct pathways and indirect channels mediated by Green Human Resource Management Practices. The focus of the examination is within the context of SMEs operating within the embroidery sector in Indonesia. By delving into these dynamics, the research seeks to unravel the nuanced relationships between GTL, Green Human Resource Management, and the overall environmental performance of SMEs in the targeted embroidery industry. This inquiry aspires to contribute valuable insights to the existing body of knowledge, shedding light on effective strategies for enhancing environmental sustainability practices within SMEs, particularly in the distinctive context of the embroidery sector in Indonesia.

This research introduces several novel aspects: (1) A scarcity of studies exists that comprehensively examine the relationship between GTL and organizational environmental performance (Kim et al., 2019), particularly within the context of SMEs in the embroidery industry of developing countries, such as Indonesia. This research extends the current literature by investigating this relationship, incorporating the mediating variable of GHRM in SMEs. (2) The research theme focuses on SMEs in the embroidery industry, an underexplored area despite its significance as a crucial icon supporting local, regional, and national tourism and contributing substantially to income generation. This study seeks to fill this research gap by concentrating specifically on the embroidery industry within the SME sector. (3) The empirical gap identified in the literature is related to conflicting opinions on the positioning of independent, intervening, and dependent variables. Existing studies, such as those by Singh et al. (2020), have presented differing perspectives, placing transformational leadership as a mediating variable rather than an independent variable. (4) Despite the notable economic importance of the embroidery industry within the SME sector, prior research primarily addresses SMEs in general. This study endeavors to offer a more nuanced understanding by focusing specifically on the embroidery industry, potentially yielding more meaningful and industry-specific research outcomes. (5) A distinct feature of this research lies in its departure from the prevailing trend of Human Resource Management (HRM) studies, which predominantly concentrate on large-scale organizations. In the last decade, the majority of HRM research has centered on larger entities, with only a minimal proportion dedicated to SMEs, and those studies often adopt a more theoretical or literary approach (Boiral et al., 2019; Tang and Tang, 2012). This research, by contrast, aims to contribute empirical insights into HRM practices within SMEs, particularly within the context of the embroidery industry.

This study is motivated by several considerations pertaining to SMEs in Indonesia. Firstly, SMEs are recognized as a crucial driver of the Indonesian economy, exerting a substantial and pivotal influence on economic development. Secondly, empirical evidence underscores the indispensability of SMEs, with 99% of the Indonesian workforce employed in this sector, inclusive of the embroidery industry, as of the year 2022. Moreover, the collective output of SMEs constitutes a noteworthy 60.5% of the Gross Domestic Product (GDP), thereby emphasizing their substantive contribution to the economic landscape.

This research holds the potential to make noteworthy contributions in several domains. Firstly, it aims to advance and refine the theoretical frameworks of Resource-Based View (RBV) and the Ability, Motivation, and Opportunity (AMO) model within the specific context of SMEs in the embroidery industry sector. The study endeavors to clarify the manner in which GTL influences the enhancement of sustainable organizational environmental performance, both directly and indirectly through the implementation of GHRM practices. Secondly, through empirical investigation, the research endeavors to provide substantive data and insights concerning the empirical associations between GTL and organizational environmental performance. This

examination extends to the indirect impact of GTL through the mediation of GHRM practices within the embroidery industry sector of SMEs. Lastly, the research aspires to offer practical implications by furnishing recommendations for policymakers involved in the governance and management of SMEs within the embroidery industry sector. These recommendations are designed to inform the formulation of more effective policies and programs conducive to the sustainable development of these enterprises.

## LITERATURE REVIEW

### Fundamental Theories in Focus

In this study, we employ two theoretical frameworks, specifically: (1) the Resource-Based View (Barney, 1991) and (2) the Ability Motivation Opportunity Theory (Appelbaum et al., 2000), to systematically investigate and shed light on the association between transformational leadership and organizational environmental performance. Additionally, we examine the role of GHRM practices within the context of the embroidery industry sector of Small and Medium-sized Enterprises (SMEs). While the nexus between human resources, encompassing GTL and GHRM practices, and organizational environmental performance has been previously explored, it is noteworthy that limited research has explored this theme specifically in conjunction with "green" attributes such as GTL and GHRM practices.

The first theory under consideration is the Resource-Based View (RBV), which serves as a foundational construct elucidating that an organization's environmental performance and sustainable competitive advantage are contingent upon its adept utilization of strategic resources possessing characteristics of rarity, inimitability, and value. This strategic resource utilization is geared towards the effective and efficient achievement of organizational goals, thereby ensuring sustained competitiveness in the global industrial market. The classification of company resources into tangible and intangible categories is integral to this discussion. GTL, characterized as an intangible resource, exerts a profound influence on GHRM practices. The leadership role assumes significance in pivotal functions such as recruitment, selection, assignment, training, development, and overall employee care, thereby influencing task completion and, consequently, organizational environmental performance. Moreover, leadership is acknowledged as a critical intangible resource instrumental in determining HRM practices and augmenting organizational environmental performance, as explained by Zhou et al. (2018).

The subsequent theoretical framework under consideration is the Ability Motivation Opportunity (AMO) theory. According to the AMO framework, successful implementation of GTL is anticipated to enhance employees' competence. This enhancement is achieved through various human resource management practices, spanning activities from recruitment to preparations for employee retirement. Motivation, integral to AMO, is cultivated through the provision of favorable rewards, incentives, and compensation, coupled with opportunities that allow employees to showcase optimal performance and make significant contributions to environmental performance achievements, as articulated by Bos-Nehles et al. (2013). The implementation of GHRM is strategically oriented towards fostering the holistic development of employees, providing encouragement, and facilitating optimal growth. This approach is aimed at elevating environmental performance and attaining sustainable competitive advantage.

### Green Transformational Leadership (GTL)

GTL is defined as the leader's conduct characterized by the exposition of the organization's vision, mission, philosophy, and strategy. This is achieved through the inspiration and motivation of employees to effectively and efficiently contribute to the enhancement of organizational environmental performance, as asserted by Ng (2017) and Mittal et al. (2016). This leadership approach further results in the active engagement of employees in the company's pro-environment processes and operations, aligning with the insights of Andriopoulos and Lewis (2010), and subsequently facilitates the creation of products, services, and outputs with pro-environment attributes. The positive influence of GTL extends to the amelioration of organizational environmental performance, as corroborated by studies conducted by Zuraik et al. (2019), Vasilaki et al. (2016), and Mittal et al. (2015).

### **Green Human Resource Management Practices (GHRM)**

GHRM practices encompass a spectrum of human resource management activities, commencing from recruitment processes, placement, development, and maintenance, extending to the comprehensive preparation of human resources for eventual retirement. These practices, as emphasized by Renwick et al. (2013), exhibit the capability to enhance organizational environmental performance. GHRM operates by strategically deploying human resources within company processes and operations, aiming to generate pro-environmental outputs that contribute to overall environmental performance. This approach is positioned as a manifestation of corporate social responsibility, strategically aligned to secure sustainable competitive advantages and triumph in competitive landscapes, as articulated by Nejati et al. (2017) and Muller-Carmem (2010).

### **GTL, GHRM, and Organizational Environmental Performance**

A transformative leader possesses a comprehensive understanding of the current objectives of the organization, navigating the dynamic market with insights into recent developments and future actions. The leader is tasked with formulating innovative and robust visions, demonstrating unwavering faith in them, and possessing the communicative prowess to articulate these visions clearly to employees. Subsequently, employees are motivated to actively contribute to the realization of these visions, underscoring the organization's steadfast commitment to environmental protection and sustainability. This fosters a positive mindset and behavior among employees, serving as a source of motivation, inspiration, and intellectual stimulation. This proactive approach encourages subordinates to creatively address environmental challenges in both preventative and remedial capacities, instilling a sense of involvement and responsibility for environmental sustainability, as emphasized by Xie and Zhang (2012). Furthermore, leadership's role is underscored in providing support to employees, cultivating awareness, and fostering a commitment to environmental concerns, as evidenced in studies by Astakhova (2015), Perrewé et al. (2013), Northouse (2015), and Manika et al. (2015). This underscores the substantial influence of leadership in managing the behavior of subordinates and employees.

According to the Resource-Based View, leadership is conceptualized as an intangible resource, holding significant importance in the strategic management of the organizational environment (Kura, 2016; Guest and Teplitzky, 2010). In parallel, transformational leadership has been demonstrated to enhance employee motivation, self-confidence, work engagement, and overall performance, contributing positively to work efficiency (Ng, 2017; Kura 2016). This leadership approach aims to assist organizations in cultivating, developing, motivating, and sustaining employee behaviors that prioritize environmental sustainability (Mittal and Dhar, 2016; Mittal and Dhar, 2015). Furthermore, it encompasses the communication of beliefs and core values by top management, which serves as a guiding influence on the adoption of green Human Resource Management (HRM) practices (Tang et al., 2018; Kura, 2016; Leroy et al., 2018). The overarching objective is to facilitate the realization of organizational strategies and visions aligned with environmental performance goals (Carton et al., 2014). Additionally, it provides avenues for employee involvement in activities related to environmental management (Dumont et al., 2017; Chen and Chang, 2013; Renwick et al., 2013; Ardito and Dangelico, 2018).

The influential role of top management in steering the adoption of green Human Resource Management (HRM) practices underscores the pivotal significance ascribed to GHRM within organizations. Analogously, GHRM is conceptualized as the vital essence of organizations, wielding a perceptible impact on organizational environmental performance, as asserted by Kura (2016) and Chen and Chang (2013). The escalating global concern for the environment necessitates organizations to embrace GHRM practices. This adoption aims to instill pro-environmental behavior not only among employees within the workplace but also extends to their families and society at large, as articulated by Renwick et al. (2013). Scholars such as Yu et al. (2017) and O'Donohue and Torugsa (2016) advocate that management can formulate, implement, and leverage GHRM practices as integral components of pro-environmental organizational strategies and policies. This strategic integration demands commitment from top management, robust organizational support, and adept supervision, as emphasized by Leroy et al. (2018). Furthermore, the implications of such practices reverberate across employee awareness and commitment to pro-environmental initiatives, both within the workplace and in broader societal contexts (Tang et al., 2018; Opatha and Arulrajah, 2014). Mishra (2017) affirms the comprehensive integration of GHRM practices throughout the HRM process, involving activities aligned with environmental sustainability, social equilibrium, and economic considerations, with long-term benefits accruing to the organization. This strategic alignment is

positively associated with employees' willingness to generate and implement environmentally friendly ideas, as corroborated by Babiak and Trendafilova (2011), Evangelinos et al. (2015).

Specifically, the empirical evidence supports the notion that the GTL style is adept at fostering an innovative climate, inspiring, motivating, and instilling trust in employees, thus enabling them to embrace the leader's vision, thereby influencing the company's environmental performance (Mittal and Dhar, 2016; Northouse, 2015; Barrick et al., 2015; Zuraik and Kelly, 2019). This is particularly relevant in response to escalating stakeholder pressures on companies to enhance their environmental management practices (Zsóka et al., 2013; Kura, 2016; Chen and Chang, 2013). The behavioral orientation of transformational leadership specifically addresses environmental challenges, strategically engaging in a deliberate and calculated manner to derive effective and efficient solutions promptly. This involves actively inviting and involving employees in developing an enhanced awareness of and commitment to environmental balance and sustainability (Boehm et al., 2015; Boiral et al., 2014; Graves and Sarkis, 2018; Graves et al., 2013; Guerci et al., 2016). Hence, it is imperative to introduce mediating variables within the nexus of GTL and corporate environmental performance, as numerous antecedent research findings substantiate both direct and indirect impacts within the interconnection of these two variables (Chen et al. (2015); Paillé et al. (2014); Mathapati, 2013; Arulrajah et al. (2015); Heffernan et al. (2016)).

Subsequent empirical investigations reveal a robust correlation between proficient implementation of GHRM practices and elevated organizational environmental performance, thereby contributing to enhanced environmental sustainability (Bin Saeed et al., 2019; Chen et al., 2015). The ramifications of Green HRM practices extend to noteworthy improvements in operational efficiency, heightened employee engagement, and an overall augmentation in organizational environmental performance (Leroy et al., 2018; Robertson and Barling, 2013; Paillé et al., 2014; Mathapati, 2013; Arulrajah et al., 2015). Furthermore, these practices are identified as instrumental in conferring sustainable competitive advantage and securing a competitive edge in the market competition (Hoon et al., 2019; Ababneh, 2021; Baumgartner and Winter, 2014; Blok et al., 2015).

## HYPOTHESIS DEVELOPMENT

Building upon the preceding exposition, several hypotheses are posited:

- H1. GTL influences GHRM practices.*
- H2. GHRM practices influence organizational environment performance.*
- H3. GTL influences organizational environment performance.*
- H4. GTL influences organizational environment performance through GHRM practices.*

## METHODOLOGY

### Variable Measurement

In the data collection process, the survey method is employed, a methodology chosen for its capacity to facilitate result generalization and hypothesis testing. The data is gathered through the utilization of a closed questionnaire featuring Likert's scale, encompassing five alternative responses ranging from 1 (strongly agree) to 5 (strongly disagree). The study encompasses three variables: GTL denoted as X, Green Human Resource Management practices (GHRM) denoted as Z, and Organizational Environmental Performance denoted as Y. The measurement of GTL involves the adoption of a scale derived from Graves et al. (2013), which is a modification of the scale initially proposed by Bass and Avolio (1995). The GTL scale comprises five dimensions, delineated into five statement items: idealized influence, idealized behavior, inspirational motivation, intellectual stimulation, and personalized consideration. GHRM practices are assessed using a scale developed by Jabbour et al. (2010) and Arulrajah et al. (2016), incorporating three dimensions: green recruitment and selection, green training and development, and green rewards, which collectively consist of nine statement items. The measurement of Organizational Environmental Performance involves the adoption of a scale developed by Jackson et al. (2012),

Renwick et al. (2013), Yusof and Jamaludin (2013), comprising five dimensions, further elaborated into a total of 19 statement items.

### **Population, Sample and Sampling Techniques**

The research population comprises all employees within Small and Medium-sized Enterprises (SMEs) specializing in embroidery within the region of East Java, Indonesia. The rationale for selecting SMEs within the embroidery sector stems from the diverse business sectors represented in these enterprises. The establishment of this research focus aims to elicit specific and comprehensive insights into the embroidery sector in Indonesia.

In the realm of arts and crafts, East Java boasts substantial potential across various artisanal domains, including batik, leatherwork, jewelry and accessories, metal crafting, as well as wood and stone crafts. The region hosts an Arts and Crafts Industrial Center, featuring diverse sectors such as the Bag and Suitcase Industrial Center in Kedensari village, Tanggulangin sub-district; Embroidery in Kludan village, Tanggulangin sub-district; Sayangan (a center for the production of household equipment made from aluminum and stainless steel) in Kesambi village, Porong sub-district; Hats in Punggul village, Gedangan sub-district; Sandals in Wedoro village; Metal crafting (including electrical components, telephones, agricultural tools, bicycles, and others) in Ngingas village, Waru sub-district; Bamboo weaving (focused on kitchen assembly) in Gagang Panjang village, Tanggulangin sub-district; Silver Crafts in Kedung Bendo village, Tanggulangin sub-district; Headbands in Gempolsari village, Tanggulangin sub-district; Bamboo weaving (Jrebeng) in Sumpul village, Sidoarjo sub-district; Anatomy Industrial Center in Sumpul village, Sidoarjo sub-district; Written Batik in Sidoklumpuk village, Jetis Lemahputro, Sidoarjo sub-district; Mirror glass in Kedungkendo village, Candi sub-district; Shadow puppetry in Gelam village, Candi sub-district; Children's toys in Kebon Agung village, Sukodono sub-district; Car vehicle component industry center in Ngingas village, Waru sub-district; Shoes in Kemas village, Krian sub-district; and Spon sandals in Wedoro village, Waru sub-district.

Analyzing the characteristics of SMEs within the embroidery industry sector in East Java, Indonesia, reveals several notable features. Firstly, these businesses typically operate as familial enterprises, passed down through successive generations. Secondly, the proprietor assumes a dual role as both the owner and leader/manager of the business. Lastly, the workforce within these SMEs predominantly consists of family members, relatives, or neighbors, reflecting a close-knit and community-oriented employment structure.

Precision in data acquisition is deemed integral to ensure the authenticity of research outcomes. Consequently, a Focus Group Discussion (FGD) involving Human Resource Management (HRM) experts is conducted to enhance instrument accuracy in measuring the model construct. The FGD also validates item contents, ensuring alignment with the operational definition of each variable. Despite the FGD involvement of SME experts and the adoption of instruments from reputable international journals, a preliminary test on 30 respondents affirms the instruments' suitability, meeting validity and reliability criteria.

Subsequent to instrument validation, a closed questionnaire utilizing multi-stage sampling is distributed. This involves (1) determining the sample area size based on the city/regency dimensions, (2) selecting SME samples within each area through simple random sampling, with the total sample size calculated using a 95% confidence level and a 5% error tolerance rate. Consequently, data is gathered from 350 employees in 150 SMEs across 20 cities/regencies in East Java, Indonesia.

The data collection period spans four months from December 2022 to March 2023, with 73% of responses collected offline and the remainder through an online method utilizing Google Forms. Out of the 350 distributed questionnaires, 300 are submitted for analysis, while 50 are deemed unreturned, damaged, or incomplete.

### **Data Analysis Techniques**

The data analysis techniques used are: Firstly, descriptive statistics technique is conducted for determining the condition of 3 variables in a comprehensive and detailed manner. Secondly, SEM PLS method is implemented to answer the influence among variables directly. Lastly, Sobel test is carried out using statistic software of Sobel Test Calculator version 4.0.0 (Adnan et al., 2017)) for determining the indirect influence of the exogenous variable on the endogenous variable.



## RESULTS

### Respondent Characteristics

The attributes of the respondents are delineated in the subsequent discussion.

Table 1 Respondent Characteristics

| Characteristics            | Number | Percentage |
|----------------------------|--------|------------|
| Gender                     |        |            |
| Male                       | 194    | 0.65       |
| Female                     | 106    | 0.35       |
| Age (years):               |        |            |
| 20-39                      | 100    | 0.33       |
| 40-49                      | 102    | 0.34       |
| 50-59                      | 69     | 0.23       |
| 60-69                      | 26     | 0.08       |
| 70-79                      | 3      | 0.02       |
| Education                  |        |            |
| High school                | 57     | 0.19       |
| Vocational school          | 50     | 0.17       |
| Senior high school         | 66     | 0.22       |
| Vocational high school     | 79     | 0.26       |
| Bachelor's degree          | 28     | 0.09       |
| Master's degree or higher  | 20     | 0.06       |
| Work experience (in years) |        |            |
| 1 to 9                     | 60     | 0.20       |
| 10 to 19                   | 149    | 0.50       |
| 20 to 29                   | 83     | 0.28       |
| 30 or more                 | 12     | 0.04       |
| Total                      | 300    | 100.0      |
| Level:                     |        |            |
| Micro                      | 135    | 0.45       |
| Small                      | 103    | 0.34       |
| Medium                     | 62     | 0.21       |

Table 1 provides an overview of the demographic characteristics of the respondents. The data indicates a predominant male presence, constituting 65% of the sample. The age distribution reveals that 80% of respondents fall within the range of 20 to 69 years. Regarding educational background, the majority (85%) holds qualifications ranging from high school to vocational high school. Work experience is predominantly concentrated in the 10 to 19 years bracket, encompassing 50% of the participants. Additionally, 45% of the respondents are engaged in employment at the micro-level within Micro, Small, and Medium Enterprises (MSMEs).

### Result of Descriptive Statistics

Table 2 provides a comprehensive depiction of key variables in the study. The variable GTL exhibits favorable conditions, characterized by a minimum statistical score of 28.0, a maximum score of 45.0, and a mean score of 37.5156. This suggests that employees perceive their leaders as highly effective in addressing environmental concerns. Leaders are perceived as adept in confidently addressing environmental issues, emphasizing the importance of environmental protection, articulating a proactive stance toward environmental challenges, fostering new perspectives on environmental problems, and facilitating training and socialization on environmental issues.

Table 2 Condition of variable X, Z, Y

| Variabel           | N   | Statistic | Minimum Statistic | Maximum Statistic | Mean Statistic | Std.Error | Statistic |
|--------------------|-----|-----------|-------------------|-------------------|----------------|-----------|-----------|
| X                  | 300 |           | 28.00             | 45.00             | 37.5156        | .18463    | 3.30276   |
| Z                  | 300 |           | 30.00             | 50.00             | 41.6750        | .24514    | 4.38514   |
| Y                  | 300 |           | 29.00             | 45.00             | 37.7844        | .22321    | 3.99299   |
| Valid N (listwise) | 300 |           |                   |                   |                |           |           |

Similarly, the variable GHRM is classified as high, with a minimum statistical score of 30.0, a maximum score of 50.0, and a mean score of 41.6750. Employee perceptions indicate that GHRM practices are perceived as excellent, with SMEs strategically selecting applicants with environmental awareness for job vacancies related to environmental management. The recruitment messaging emphasizes the significance of pro-environmental

behavior, and SMEs conduct regular training sessions prioritizing environmental themes. Evaluation of these trainings reveals a reward system, including both monetary and non-monetary compensation, for employees who demonstrate commendable environmental performance. Leaders further integrate employee suggestions into the reward system, fostering a culture of innovative environmental initiatives. The SMEs' commitment to environmental performance is reflected in societal approval.

Lastly, Organizational Environmental Performance is deemed high, with a minimum statistical score of 29.0, a maximum score of 45.0, and a mean score of 37.7844. Employees perceive the organizational environmental performance as outstanding. SMEs actively commit to reducing electric energy consumption, promoting eco-friendly renewable energy resources, enhancing eco-friendly service quality, and implementing recycling principles to minimize waste. This concerted effort underscores the organizations' dedication to environmental responsibility.

### **Result of SEM PLS Test**

#### **Evaluation of measuring model (Outer Model)**

The assessment of the measuring model's outer structure involves conducting tests for composite reliability, convergent validity, and discriminant validity. The ensuing outcomes of these evaluations are as follows:

##### **a. Convergent Validity**

Convergent validity, a crucial assessment in validating correlations between indicators and constructs or other variables, is employed to evaluate the soundness of such relationships. The validity examination is conducted through the scrutiny of outer loading outcomes. In adherence to established norms, this research adopts standard criteria, stipulating that an outer loading score surpassing 0.6 and an average variance extracted (AVE) score exceeding 0.5 signify the validation of an indicator (Hair et al., 2013). The outcomes of the convergent validity test are meticulously delineated in Table 3 for comprehensive reference and analysis.

**Table 3 Outer Loading Score**

| Variable                                 | Dimension                            | Item                          | Outer loading | Validity |       |
|--|--------------------------------------|-------------------------------|---------------|----------|-------|
| Green Transformational Leadership        | 1. Idealized influence               | TL1                           | 0.714         | Valid    |       |
|  |                                      | TL2                           | 0.712         | Valid    |       |
|  | 3. Inspirational motivation          | TL3                           | 0.714         | Valid    |       |
|  |                                      | 4. Intellectual stimulation   | TL4           | 0.781    | Valid |
|  |                                      | 5. Personalized consideration | TL5           | 0.782    | Valid |
| Green Human Resources Management         | 2.1. Green Recruitment and Selection | HRM1                          | 0.730         | Valid    |       |
|  |                                      | HRM2                          | 0.639         | Valid    |       |
|  |                                      | HRM3                          | 0.675         | Valid    |       |
|  |                                      | HRM4                          | 0.807         | Valid    |       |
|  | 2.2. Green Training and Development  | HRM5                          | 0.819         | Valid    |       |
|  |                                      | HRM6                          | 0.802         | Valid    |       |
|  |                                      | HRM7                          | 0.753         | Valid    |       |
|  |                                      | HRM8                          | 0.807         | Valid    |       |
|  |                                      | HRM9                          | 0.755         | Valid    |       |
| Organizational Environmental Performance | 2.3. Green Rewards                   | OEP1                          | 0.787         | Valid    |       |
|  |                                      | OEP2                          | 0.771         | Valid    |       |
|  |                                      | OEP3                          | 0.906         | Valid    |       |
|  |                                      | OEP4                          | 0.886         | Valid    |       |
|  |                                      | OEP5                          | 0.811         | Valid    |       |

In accordance with the findings presented in Table 3, it is discernible that each item exhibits an outer loading score exceeding 0.6, thereby affirming the validity of all considered variables. In addition to the outer loading scores, the Average Variance Extracted (AVE) score is employed to assess the efficacy of latent variables in representing the original data scores. In the Partial Least Squares (PLS) model, a criterion for satisfactory convergent validity measurement is met when the AVE score surpasses 0.5. The outcomes of the AVE analysis conducted in this research are meticulously outlined in Table 4.

Table 4 presents the Average Variance Extracted (AVE) scores for each variable, all of which surpass the threshold of 0.5, indicating the validity of all variables under consideration.

Table 4 AVE Score of the 3 Variables

| Variable                                 | AVE   | Validity |
|--|-------|----------|
| Green Transformational Leadership        | 0.550 | Valid    |
| Green Human Resources Management         | 0.695 | Valid    |
| Organizational Environmental Performance | 0.572 | Valid    |

#### b. Composite Reliability

Within the Smart PLS program, the evaluation of reliability involves an examination of two key factors: composite reliability score and Cronbach's Alpha score. Notably, the composite reliability score is deemed a superior metric for assessing a construct (Ghozali et al., 2015). It is important to note that both Cronbach's Alpha and composite reliability scores exceeding 0.7 are considered standard, with acceptability still maintained at a minimum threshold of 0.6 (Hair et al., 2013). The outcomes of the composite reliability assessment conducted in this study are explored in Table 5.

Table 5 Result of Composite Reliability Test

| Variable                                 | Composite Reliability | Cronbach's Alpha | Reliability |
|--|-----------------------|------------------|-------------|
| GTL                                      | 0.859                 | 0.796            | Reliable    |
| Green Human Resources Management         | 0.928                 | 0.896            | Reliable    |
| Organizational Environmental Performance | 0.919                 | 0.889            | Reliable    |

Table 5 presents the composite reliability scores for the three variables, all of which exceed the threshold of 0.7, affirming the reliability of the considered variables.

#### Sobel Test

Concurrently, the Sobel test, conducted utilizing a calculator, serves to ascertain the indirect influence of GTL on organizational environmental performance through the mediation of GHRM, as detailed in the study by Adnan et al. (2017). The computed test result reveals a t-statistic of 8.56892565, surpassing the critical t-table value of 2.592316. Consequently, Hypothesis 4 is substantiated and accepted.

Table 6 Summary of Hypotheses Test Result

| Correlation | Path Coefficient | Standard Error | T-statistics | P     | Decision     |
|-------------|------------------|----------------|--------------|-------|--------------|
| X-Z         | 0.529            | 0.037          | 10.427       | 0.000 | H1. Accepted |
| Z-Y         | 0.409            | 0.039          | 14.171       | 0.000 | H2. Accepted |
| X-Y         | 0.480            | 0.046          | 10.423       | 0.000 | H3. Accepted |
| X-Z-Y       | 0.217            | 0.026          | 8.468        | 0.000 | H4. Accepted |

#### Discussion

The empirical findings derived from this research substantiate a significant and positive relationship between GTL and the organizational environmental performance. It is evident that the extent to which employees perceive GTL correlates with the degree of excellence in organizational environmental practices. Moreover, this study provides empirical validation for the applicability of both the Resource-Based View (RBV) and Ability Motivation Opportunity (AMO) theories within the specific context under investigation.

Of particular note is the discernible impact of the intangible resource represented by GTL on organizational environmental performance. The study underscores the pivotal role of GTL as a driving force behind competitive and sustainable advantages, positioning it as a decisive factor in achieving success amidst fierce market competition. This nuanced understanding sheds light on the intricate dynamics between leadership, theoretical frameworks, and the environmental performance of organizations in a competitive landscape. Empirical evidence supports the assertion that GTL directly influences organizational environmental performance and has an indirect impact through GHRM Practices on employees within SMEs operating in the embroidery industry sector in East Java, Indonesia. The antecedents of the organizational environmental performance model in this study are GTL and GHRM.

Moreover, the study identifies key findings:

- a) GTL indicators contributing significantly to SMEs in the embroidery industry sector in East Java, Indonesia are ranked as follows: (1) Inspirational Motivation, (2) Individual Consideration, (3) Idealized Behavioral Influence, (4) Idealized Influence Attributes, and (5) Intellectual Stimulation.
- b) GHRM Practices indicators with substantial contributions to SMEs in the same sector are ranked as follows: (1) Green Rewards, (2) Green Recruitment and Selection, and (3) Green Training & Development.
- c) Organizational environmental performance indicators, showcasing noteworthy contributions to SMEs in the embroidery industry sector in East Java, Indonesia, are ranked as follows: (1) Commitment to recycling materials and reducing waste, (2) Commitment to reducing energy consumption, (3) Commitment to improving quality services with environmental considerations, (4) Commitment to increasing the use of environmentally friendly renewable energy, and (5) Commitment to enhancing the reputation of organizations with a focus on environmental care.

In conjunction with the research findings, the enhancement of organizational environmental performance is contingent upon empowering employees, who serve as the organization's vanguard, to further cultivate their knowledge, behavior, and skills (Singh et al., 2019). This imperative aligns with the contemporary discourse on heightened awareness regarding environmental management and sustainable resource development (Phillips, 2018; Cavicchi, 2017; Roos and O'Connor, 2015). The present research outcomes resonate with the work of Jia et al. (2018) and Carton et al. (2014), establishing that transformational leadership exerts a positive influence on organizational environmental performance.

GTL epitomizes the confidence and values of upper management, influencing GHRM practices (Leroy et al., 2018). It substantiates organizational strategies and visions to realize environmental performance goals (Carton et al., 2014). Moreover, GTL enhances the capabilities, motivation, and engagement of employees in environmental management (Haddock-Millar et al., 2016; Della Peruta et al., 2018; Donate and de Pablo, 2015; Renwick et al., 2013; Ardito and Angelico, 2018). This corroborates a multifaceted impact on environmental performance within the organizational context.

The second research finding substantiates that GHRM functions as a partial mediating variable within the relationship linking GHRM practices to organizational environmental performance. GHRM is a specialized facet of Human Resource Management (HRM) that explicitly focuses on fostering environmental sustainability within organizations, as explicated by Renwick et al. (2013) and Muller-Carmem et al. (2010). Positioned within the broader discourse of sustainable HRM, GHRM is characterized by a concerted emphasis on aligning HRM practices with the environmental management activities of the company, as delineated by Dumont et al. (2017) and Masri and Jaaron (2017). This integrative approach underscores the pivotal role of GHRM in harmonizing human resource practices with the overarching environmental management strategies adopted by companies. GHRM practices are designed to bolster the organization in acquiring, nurturing, motivating, and sustaining employees' pro-environmental work behavior within the workplace (Dumont et al., 2017; Haddock Millar et al., 2016; Renwick et al., 2013). This operational paradigm represents a novel approach, fortifying the role of Human Resource Management (HRM) by transitioning from traditional workforce development to a more integrative model that intertwines environmental policy with human resource policy (Cohen et al., 2012).

Milliman and Clair (2017) propose a systematic four-step procedure for implementing GHRM. This approach involves (a) establishing an environmental vision as a guiding principle, (b) delineating the organization's environmental visions, (c) assessing employee performance based on eco-friendly behavior, and (d) integrating a reward system for employees exhibiting eco-friendly behavior. Consequently, GHRM serves as a manifestation of the organization's strategic commitment to environmental protection, urging management to oversee and ensure that all organizational components actively engage in environmentally sustainable practices (Oh et al., 2016; Mishra et al., 2014). The objectives of GHRM encompass (1) cultivating employees' environmental awareness and fostering an understanding of how their behavior influences the environment, and (2) fostering an eco-friendly organizational culture while enhancing employee environmental behavior. The current research results align with Jabbour et al.'s (2008) findings, emphasizing that improvements in environmental performance hinge on the comprehensive implementation of GHRM practices. Renwick et al. (2013) further posit that the selection,

recruitment, training, and development of environmental knowledge serve as integral components of GHRM practices.

GHRM practices play a pivotal role in cultivating an environmentally conscious workforce, as articulated by Bin Saeed et al. (2019). These practices involve fostering an organizational culture where employees appreciate and comprehend green initiatives. Employees, in turn, actively contribute to the enhancement of environmental performance by proposing and implementing innovative ideas and solutions aimed at minimizing environmental impacts arising from their work activities. This participatory approach aligns with the findings of prior research conducted by Babiak and Trendafilova (2011), Evangelinos et al. (2015), Pham et al. (2019), Tang et al. (2018), Lülfs and Hahn (2013), Saeed et al. (2018). In particular, these studies emphasize the mediating role of GHRM practices in the correlation between GTL and organizational environmental performance.

The findings of this study find corroboration within the extant literature on Human Resource Management (HRM), spanning diverse contexts encompassing both developed and developing nations. Numerous research endeavors have explored the intricacies of MSMEs across various countries, thereby contributing to the robustness of the present investigation. Zsóka et al. (2013) conducted research in Hungary, Santoro et al. (2019) delved into MSMEs in the United Arab Emirates, Tang and Tang (2012) focused on MSMEs in China, Xiao et al. (2017) explored graduate students in China, Weng et al. (2015) scrutinized companies in Taiwan, and Yu and Ramanathan (2015; 2017) investigated employees in manufacturing companies in the UK. Furthermore, Zuraik and Kelly (2019) directed their attention to employees in companies in the USA. The collective outcomes of these diverse studies converge in supporting the assertion that transformational leadership and human resource management practices exert a discernible influence on organizational performance.

## CONCLUSION

The primary objective of this study is to investigate the impact of GTL on Organizational Environmental Performance, both directly and indirectly, through the intermediary role of Green Human Resource Management Practices within the SMEs operating in the embroidery business sector in Indonesia. The findings of this research substantiate that GTL significantly influences organizational environmental performance directly, and GHRM serves as a partial mediating variable within this relationship. Importantly, this study underscores GTL as the principal predictor of organizational environmental performance.

Leaders who articulate clear visions, missions, philosophies, and organizational strategies demonstrate the capacity to inspire and motivate employees effectively, fostering the attainment of organizational environmental performance objectives. GHRM is highlighted as a mediating variable due to its recurrent prominence in existing literature reviews, serving both as the principal predictor and a mediating variable in studies related to organizational environmental performance. The empirical outcomes of this investigation align with the second observation, confirming that GHRM practices indeed function as a mediating variable in the correlation between GTL and organizational environmental performance.

This study endeavors to scrutinize and enhance the Resource-Based View (RBV) and Ability Motivation Opportunity (AMO) theories to investigate and detail the relationship between GTL and organizational environmental performance, while considering the role of GHRM practices within the specific context of SMEs in the embroidery sector. The empirical findings validate the ongoing relevance of both theories, as demonstrated through rigorous testing within the embroidery sector SMEs in Indonesia.

This empirical research contributes significant insights into the direct and indirect correlation between GTL and organizational environmental performance, mediated by the integration of GHRM practices within embroidery sector SMEs. The research outcomes not only enhance scholarly understanding but also furnish pertinent recommendations for policymakers and management professionals in the embroidery industry. These recommendations aim to facilitate the formulation of more effective policies and programs in subsequent endeavors.

Moreover, this study furnishes empirical evidence elucidating the intricate relationship between GTL and organizational environmental performance, both through direct pathways and indirect mediation by integrated Green HRM practices, specifically within the MSMEs sector of the embroidery industry. The observed

alignment of research outcomes with the SDGs reinforces the study's significance in the broader context of global development objectives, such as poverty eradication, prosperity enhancement, and environmental preservation. Consequently, the findings offer valuable insights to policymakers involved in MSMEs management within the brotchel/embroidery industry sector, with the aim of informing the creation of more efficacious policies and programs in the future.

As the outcomes of this study underscore the significance of incorporating GTL and GHRM, numerous instances of successful implementation of GHRM and its consequential impact on organizational environmental performance in diverse industries across other developing nations are explored to serve as valuable sources of motivation for the adoption and implementation of GTL and GHRM practices. Illustratively, research endeavors in this domain encompass a spectrum of contexts, exemplified by the following cases:

1. **Manufacturing Companies in Cikarang, Indonesia:**  
A comprehensive study conducted to elucidate and evaluate the efficacy of GHRM practices within manufacturing enterprises situated in Cikarang, Indonesia. The research not only explicates the effectiveness of GHRM practices but also sheds light on their impact on environmental performance within the Indonesian manufacturing sector.
2. **Developing Country Context:**  
Investigations have been undertaken to scrutinize the nexus between GHRM, environmental performance, and green innovation within the developmental milieu of countries such as India. These inquiries contribute significantly to discerning the role played by GHRM in propelling environmental performance within the framework of developing countries.
3. **Palestinian Manufacturing Context:**  
An empirical study delves into the evaluation of GHRM practices within the Palestinian manufacturing landscape, providing valuable insights into the application and repercussions of GHRM in the context of a developing country.

These instances collectively underscore a burgeoning interest and a pronounced research focus on GHRM practices and their consequential impact on environmental performance within developing country contexts. The outcomes derived from these investigations augment the comprehension of GHRM's efficacy in fostering environmental sustainability across various industries within developing countries.

In light of the inherent limitations in the current study, several recommendations are proffered for consideration. Firstly, given the exclusive focus on the GTL variable in influencing organizational environmental performance, subsequent research endeavors may benefit from exploring alternative variables such as green organizational culture, green spiritual leadership, environmental management systems, knowledge sharing and innovation, employee well-being, or ecological behavior as potential mediating variables. Additionally, the expansion of sample size is strongly advocated, and the applicability of the same model in SMEs belonging to diverse industrial sectors, such as culinary/food and beverages, tourism, and the like, merits exploration. While the findings of this study may be extrapolated to SMEs in other industrial sectors, it is imperative to exercise caution and adapt the results judiciously, considering the inherent variations in cultural context and population dynamics among these sectors.

While all hypotheses in this study are validated, it is crucial to note that the research exclusively relies on quantitative data and confines its scope to the embroidery sector within the SME domain. Consequently, the findings are applicable comprehensively only within this specific sector and geographic area, with limited generalizability to other sectors and regions. To enhance the depth and significance of future studies, researchers are encouraged to adopt a mixed-methods approach. Given that this research primarily explores three variables from the employees' perspective, it is strongly recommended for subsequent investigations to adopt a more comprehensive approach, examining both leaders and employees to ensure the acquisition of unbiased data.

Furthermore, considering the research's focal point on the GTL variable, which influences organizational environmental performance with GHRM practices as the mediating variable, it is advisable for future researchers to extend their inquiries to encompass additional variables. These might include, but are not limited to, green organizational culture, green spiritual leadership, environmental management systems, knowledge sharing and innovation, employee well-being, or ecological behavior as potential mediating variables. This expanded focus

will contribute to a more nuanced understanding of the intricate relationships influencing organizational environmental performance.

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