Journal of Information Systems Engineering and Management
2025, 10(47s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

The Impact of Environment and Entrepreneurship on Green Human Resource Management: A Survey in Vietnam

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ARTICLE INFO

Received: 29 Dec 2024

Revised: 15 Feb 2025

Accepted: 24 Feb 2025

ABSTRACT

This study explores the influence of environmental awareness and entrepreneurial orientation on the adoption of Green Human Resource Management practices in Vietnamese enterprises. Utilizing a structured survey targeting managers and human resource professionals across diverse industries, the research finds a significant positive correlation between environmental commitment and entrepreneurial mindset with the implementation of Green Human Resource Management strategies. Data was collected from 339 employees from selected organizations. Structural Equation Modeling AMOS software is used to test the hypotheses. It was found that proactive environmental strategy and the role of HR as a strategic business partner facilitate the adoption of green practices in the organizations. Industry was not found to moderate these relationships. The study highlights the significance of integrating an environment perspective in organizational strategy and for incorporating environmental sustainability into human resource functions.

Keywords: Green Human Resource Management, Environmental Responsibility, Entrepreneurship, Sustainable Development, Vietnam.

1. INTRODUCTION

In the context of modern enterprise evolution, organizations are increasingly compelled to align their operations with environmental imperatives, particularly in emerging economies such as Vietnam where sustainability and innovation are rapidly becoming central to development. With environmental degradation, climate risks, and carbon concerns gaining prominence, firms are now under mounting pressure to embed ecological consciousness into their strategic core (Languir, 2021). This transformation has catalyzed a paradigm shift from reactive compliance to the active pursuit of proactive environmental strategies (PES) a strategic posture that reflects not only regulatory responsiveness but also an organizational ethos grounded in environmental responsibility and corporate sustainability (Sharma & Vredenburg, 1998).

Vietnam's evolving entrepreneurial landscape is uniquely positioned to capitalize on such strategies, as both policymakers and business leaders recognize the dual imperative of environmental protection and economic growth (Din et al., 2024). These green strategies can enhance reputational capital (Zhao et al., 2020) and drive both financial viability and environmental performance (Zhang et al., 2019). Importantly, within this strategic shift, the human resource function has transitioned from a peripheral administrative role to that of a strategic facilitator of green transformation. HR's integration into strategic planning, particularly in entrepreneurial and environmentally conscious firms, enables the design and dissemination of sustainable HR policies aligned with the organization's ecological mission (Al-Alawneh et al., 2023).

Indeed, entrepreneurial firms that adopt environment-driven strategies are more likely to implement green HRM practices effectively, leading to superior organizational performance (Adomako et al., 2020). GHRM thus emerges not only as a set of environmentally aligned HR practices such as green recruitment, green employee engagement, and eco-conscious performance evaluations but as a critical mechanism for embedding sustainability into organizational culture (Opatha & Arulrajah, 2014). These practices draw upon internal competencies as emphasized

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by the Resource-Based View (RBV), which asserts that sustainable advantage arises from leveraging resources that are valuable, rare, inimitable, and non-substitutable commonly referred to as the VRIO framework (Barney, 1991).

However, possessing such resources alone is inadequate. Dynamic capabilities organizational abilities to adapt, integrate, and reconfigure internal resources in response to a changing environment are crucial for sustained advantage (Teece et al., 1997). Strategic vision and a proactive leadership posture are necessary to convert green resources into firm-level competitiveness (Zhao et al., 2020). The Natural Resource-Based View (NRBV) further expands this theory by emphasizing that ecological constraints can shape the competitive context, urging firms to innovate eco-efficient capabilities and harness GHRM to support environmental strategies (Hart & Dowell, 2011; Hart, 1995).

This theoretical backdrop underscores the role of GHRM as a bridge between environmental strategy and entrepreneurial agility. In Vietnam, where ecological concerns are rising and entrepreneurial activities are accelerating, the interplay between proactive environmental strategy and strategic HR engagement becomes pivotal. Practices such as green training, green performance appraisals, and environmentally-oriented incentives are being increasingly explored as levers for sustainability (Zaid, 2018). Empirical evidence confirms that integrating these practices into broader organizational systems enhances not only ecological outcomes but also employee satisfaction and engagement (Al-Alawneh et al., 2023).

Despite this progress, scholarly inquiry into the nexus between proactive environmental strategies, the strategic role of HR as a business partner, and the emergence of GHRM remains sparse (Piwowar-Sulej, 2021). Addressing this gap, the current study investigates whether entrepreneurial orientation and environmental consciousness jointly contribute to the adoption of GHRM in Vietnamese organizations. Furthermore, it seeks to explore inter-organizational differences in how these elements are implemented and perceived across varying business sectors and enterprise types.

2. LITERATURE REVIEW AND RESEARCH HYPOTHESIS

Proactive environmental strategies and Green Human Resource Management

Environmental orientation within organizations has become a foundational concern in the pursuit of long-term sustainability and strategic relevance (González-Benito & González-Benito, 2005). For enterprises in dynamic economies like Vietnam, addressing these concerns increasingly involves adopting proactive environmental strategies (PES) deliberate approaches that anticipate ecological risks and embed sustainability into core functional areas such as human resources, marketing, and operations. Rather than merely reacting to environmental regulations, PES represents a strategic foresight that encourages organizations to engage both internal and external stakeholders in a collective mission to mitigate environmental impacts (Li et al., 2020). This collaborative approach paves the way for the integration of eco-conscious practices into operational systems, creating a culture of sustainability throughout the enterprise (Zhu et al., 2018).

In entrepreneurial settings where adaptability and innovation are high such strategies are especially impactful. The “Go Green” philosophy is reinforced through various organizational functions, particularly the human resource department, which acts as a conduit for translating environmental aspirations into structured policies and behaviors (Chowdhury et al., 2023). Through Green Human Resource Management practices such as green recruitment, training, appraisal, and employee engagement, HR plays a central role in embedding environmental values into the organizational fabric (Din et al., 2024).

The implementation of PES not only aligns with environmental priorities but also contributes to operational excellence. It enables firms to increase customer satisfaction, improve the efficiency of resource usage, eliminate wasteful procedures, and ultimately secure a distinct competitive position in the marketplace (Do & Nguyen, 2020; Kim et al., 2019). Moreover, by voluntarily committing to environmentally responsible strategies, organizations can bolster their public image, increase profitability, and attain both cost leadership and product/service differentiation advantages (Do & Nguyen, 2020).

Nonetheless, the benefits of such strategic orientation are not always immediate. Li et al. (2016) noted that firms initiating PES may initially see minimal impact on performance metrics. However, sustained commitment to green

practices tends to generate cumulative improvements over time. As green routines become institutionalized, organizations are better positioned to preempt environmental hazards and reduce inefficiencies (Do & Nguyen, 2020). In this light, the fusion of entrepreneurial initiative with environmental foresight operationalized through GHRM emerges as a viable pathway to long-term resilience and competitive advantage.

Given the aforementioned literature, the present study proposes:

H1: Proactive environmental strategy will have a significant positive relationship with green human resource management.

Human Resource Business Partner Role and Green Human Resource Management

In the evolving landscape of environmentally responsible and entrepreneurial organizations, the Human Resources (HR) function plays a pivotal role as a strategic intermediary between leadership, employees, customers, and broader stakeholders. This collaborative capacity is critical for embedding new, sustainability-oriented practices into daily operations. As emphasized by Piwowar-Sulej (2017), the HR business partner (HRBP) role extends beyond administrative tasks to include strategic engagement ensuring consistent communication with internal stakeholders, aligning HR initiatives with organizational leadership, and coordinating the rollout of these practices across departments and business units.

Within entrepreneurial enterprises pursuing environmental goals, the HRBP becomes instrumental in guiding change by aligning green initiatives with the organization's mission and values. These HR professionals facilitate the integration of Green Human Resource Management (GHRM) by involving employees in eco-driven transformations and smoothing the transition toward sustainable operations. Sujan et al. (2020) noted that HRBPs increasingly support other functions by embedding HR capabilities within business strategy, enhancing operational adaptability. Their targeted interventions contribute to improvements in productivity, customer satisfaction, and organizational efficiency (Stavron & Brewsten, 2005).

As sustainability becomes an essential aspect of competitive advantage in emerging markets like Vietnam, HR professionals are expected to champion green transformation. They do so not only through system-level interventions but also by cultivating trust and facilitating behavioral change. Ulrich et al. (2013) highlighted that effective HR leaders leverage interpersonal skills and organizational insight to foster an environment conducive to adopting green HR practices. Moreover, the ability of HRBPs to build communication frameworks and shape supportive organizational climates makes them key players in institutionalizing eco-friendly norms (Yusliza et al., 2017).

H2: Human resource business partner will have a significant positive relationship with green human resource management.

Industry as a moderator

Business operations, particularly in developing economies like Vietnam, continue to exert mounting pressure on the environment, with industries playing a central role in ecological degradation (Masud et al., 2018). Traditionally, the manufacturing sector has been at the forefront of environmental concern due to its association with excessive waste generation, unsustainable resource consumption, and pollution-intensive practices (Abdul Rashid et al., 2017). However, the environmental impact of the service sector is also gaining scholarly attention. Tanova and Bayighomog (2020) pointed out that service-oriented industries, while less visible in terms of emissions, still contribute significantly to environmental degradation through energy consumption, digital waste, and unsustainable supply chains.

In response to these ecological threats, both sectors have begun implementing environmental management systems as part of broader sustainability efforts. Ari et al. (2020) showed that service firms are increasingly embracing green initiatives as a pathway to achieving long-term competitive advantage. Similarly, the manufacturing sector has made notable strides in integrating environmentally sustainable human resource practices to reduce its ecological footprint (Khaskhely et al., 2022). These developments reflect a growing organizational commitment across industries to embed sustainability into their core functions by reducing resource consumption, minimizing waste, and fostering responsible behaviors such as recycling and energy conservation (Tanova & Bayighomog, 2020).

Despite these advancements, Kim et al. (2019) noted a critical gap in the literature concerning the application of Green

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Human Resource Management (GHRM) across different industry types. There remains a lack of empirical investigation into how industry characteristics might moderate the relationship between proactive environmental strategies (PES), the role of HR as a strategic business partner, and the effectiveness of GHRM implementation. This study seeks to address this gap by examining whether the influence of environmental orientation and entrepreneurial context on GHRM adoption varies between manufacturing and service sectors.

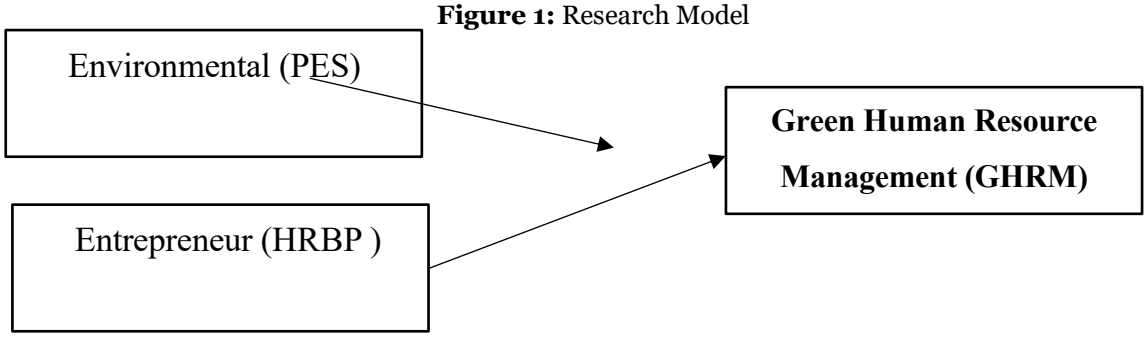
Accordingly, the following hypotheses are proposed:

H3: Industry serves as a moderator between PES and GHRM

H4: Industry acts as a moderator between HR as a business partner and GHRM.

RESEARCH MODEL

Figure 1: Research Model



(Source: Author's Compilation, 2025)

3. METHODOLOGY

To examine the influence of environmental orientation and entrepreneurial factors on Green Human Resource Management, empirical data were collected through a structured questionnaire distributed to executives and managerial personnel across various hierarchical levels within selected Vietnamese organizations. The data collection process employed a mixed-mode approach, combining both digital (online) and traditional (offline) survey methods to maximize reach and response rate. Initially, 360 completed questionnaires were received. However, after screening for anomalies and removing 21 responses identified as statistical outliers, the final validated dataset comprised 339 usable responses, ensuring robust and reliable input for subsequent analysis.

Questionnaire

The survey instrument employed in this study was organized into five structured sections, with a primary focus on measuring three key constructs central to the research model: Green Human Resource Management (GHRM), Proactive Environmental Strategy (PES), and the role of Human Resources as a Strategic Business Partner (HRBP). These sections consisted of 22 items for GHRM, 8 items assessing PES, and 6 items evaluating the HRBP role. All items were rated using a five-point Likert scale, ranging from 1 = strongly disagree (indicating low presence) to 5 = strongly agree (indicating high presence), enabling the capture of nuanced perceptions regarding environmental and entrepreneurial dynamics within organizational HR practices.

In addition to the main constructs, the questionnaire also gathered demographic information from respondents, including age, gender, job title, and years of experience, to provide context for further analysis and control variables.

Table 1 presents the Cronbach's alpha coefficients for each construct, confirming the internal consistency and reliability of the scales used. The table also details the source studies from which the questionnaire items were adapted, ensuring both conceptual validity and alignment with established academic literature.

Table 1: Cronbach alpha values and questionnaire studies

No.	Variable	Questionnaire adapted	Cronbach Alpha

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1.	Proactive environmental strategy	Aragón-Correa (1998) & González-Benito and González-Benito (2005)	0.898
2.	HR Business Partner role	Yusliza et al. (2010)	0.865
3.	Green HRM	Jabbour (2011), Guerci et al. (2016) & Tang et al. (2018).	0.954

(Source: Author's Compilation, 2025)

Data Analysis

To evaluate the relationships between environmental orientation, entrepreneurial characteristics, and Green Human Resource Management (GHRM), the study employed Structural Equation Modeling (SEM) a widely recognized statistical methodology for analyzing complex causal relationships among latent constructs. SEM was selected for its robustness in testing both the measurement and structural components of the research model. All analyses were conducted using IBM AMOS version 24.

Prior to hypothesis testing, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was applied to ensure that the dataset was suitable for factor analysis. Once confirmed, a measurement model was developed to assess the validity and reliability of the constructs. This phase focused on verifying convergent and discriminant validity, as foundational criteria for construct validation.

Model fit was assessed using a range of indices reflecting both goodness-of-fit (e.g., CFI, GFI, TLI) and badness-of-fit (e.g., RMSEA, SRMR) measures. After the measurement model demonstrated acceptable validity, the full SEM model was tested to explore the hypothesized paths and estimate the strength and significance of relationships between variables.

Measurement model validity

To ensure the robustness of the constructs used in analyzing the relationship between environmental and entrepreneurial influences on Green Human Resource Management (GHRM), a measurement model was developed and tested. This model, depicted in Figure 2, was designed to assess both the validity and reliability of the latent variables: Proactive Environmental Strategy (PES), HR Business Partner (HRBP) role, and GHRM.

As defined by Hair Jr. et al. (2014), construct validity refers to the extent to which the observed variables accurately represent the underlying theoretical concepts they are meant to measure. This validity is evaluated through two key components: convergent validity and discriminant validity.

Convergent validity is established when the standardized factor loadings for all indicators are 0.50 or above, and when the Average Variance Extracted (AVE) for each construct exceeds 0.50, indicating that the majority of variance is captured by the construct rather than measurement error.

Discriminant validity, on the other hand, is confirmed when each construct's AVE is greater than its Maximum Shared Variance (MSV), and the AVE surpasses the squared inter-construct correlations, demonstrating that the constructs are empirically distinct from one another.

Table 2: Measurement Model

Model Construct	Items	Loadings	AVE	CR	Cronbach alpha
PES			0.526	0.899	0.898
	PES1	0.780			
	PES2	0.686			
	PES3	0.687			
	PES4	0.769			

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	PES5	0.701			
	PES6	0.724			
	PES7	0.733			
	PES8	0.717			
HRBP			0.520	0.867	0.865
	HRBP1	0.731			
	HRBP2	0.727			
	HRBP3	0.757			
	HRBP4	0.757			
	HRBP5	0.699			
	HRBP6	0.662			
GHRM			0.738	0.933	0.954
	GREC1	0.794			
	GREC2	0.551			
	GREC3	0.780			
	GREC4	0.858			
	GREC5	0.765			
	GTD1	0.782			
	GTD2	0.827			
	GTD3	0.825			
	GTD4	0.824			
	GTD5	0.722			
	GPMS1	0.760			
	GPMS2	0.861			
	GPMS3	0.861			
	GCOM1	0.768			
	GCOM2	0.871			
	GCOM3	0.828			
	GCOM4	0.637			
	GINV1	0.808			
	GINV2	0.834			
	GINV3	0.788			
	GINV4	0.843			
	GINV5	0.846			

(Source: Data Processing Results on AMOS Software, 2025)

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Table 3: Discriminant validity results

	CR	AVE	MSV	PES	HRBP	GHRM
PES	0.899	0.526	0.360	**0.725**		
HRBP	0.867	0.520	0.047	0.185**	**0.721**	
GHRM	0.933	0.738	0.360	0.600***	0.217***	**0.859**

***p<0.001; **p<0.01

(Source: Data Processing Results on AMOS Software, 2025)

Table 4: Model Fit measures

Measure	Estimate	Threshold	Interpretation
CMIN	1147.537	--	--
DF	586	--	--
CMIN/DF	1.958	Between 1 and 3	Excellent
CFI	0.928	>0.90	Acceptable
SRMR	0.055	<0.08	Excellent
RMSEA	0.053	<0.06	Excellent
PClose	0.120	>0.05	Excellent

(Source: Data Processing Results on AMOS Software, 2025)

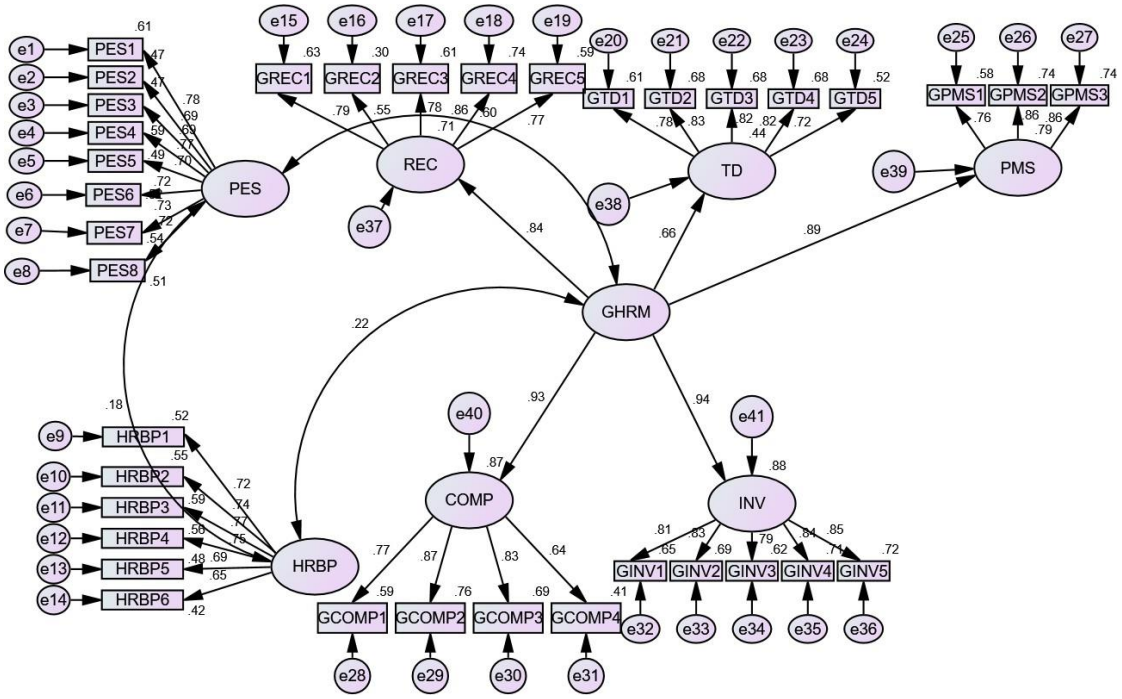

Figure 2: Measurement Model

(Source: Data Processing Results on AMOS Software, 2025)

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e-ISSN: 2468-4376
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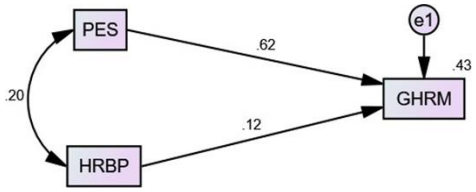

Figure 3: Structural Model

(Source: Data Processing Results on AMOS Software, 2025)

4. RESULTS

Common Method Bias

To ensure the integrity of the data collected and rule out potential common method bias, the Harman's Single Factor Test was conducted. The analysis revealed that a single factor accounted for only 37.28% of the total variance, which falls well below the conventional threshold of 50%. This result confirms that the risk of common method variance is minimal and does not threaten the validity of the findings (Bhatti et al., 2021).

Hypothesis Testing

The measurement model established satisfactory levels of validity and reliability, as detailed in earlier sections. Subsequently, the study proceeded to test the proposed hypotheses through a structural model (see Figure 2). Path analysis results showed that Proactive Environmental Strategy (PES) had a positive and statistically significant impact on the adoption of Green Human Resource Management (GHRM) ($\beta = 0.46$, $p < 0.01$), supporting Hypothesis H1. Furthermore, the role of Human Resource Business Partner (HRBP) was also found to be significantly and positively associated with GHRM ($\beta = 0.12$, $p < 0.01$), thereby confirming Hypothesis H2.

The study then extended the analysis to explore whether the type of industry manufacturing versus service moderates the relationship between environmental and entrepreneurial factors and GHRM practices.

Moderation analysis

To test for moderation effects, a Multiple Group Analysis (MGA) was performed, comparing organizations from the manufacturing and service sectors. This approach aimed to assess whether the structural relationships differ significantly across sectors, in line with established methods (Sörbom, 1974; Jöreskog, 1971).

The invariance testing was carried out in three stages: configural, metric, and scalar invariance, as recommended by Byrne (2006). Configural invariance was supported ($p < 0.05$), indicating that the overall model structure fits both sectors similarly. Next, metric invariance confirmed that the measurement items contributed equally to their respective constructs across both groups, allowing for a valid comparison of relationships. Lastly, scalar invariance was established, meaning any observed differences in construct means were due to real differences rather than measurement inconsistencies.

Having confirmed measurement equivalence, the study proceeded with moderation testing to determine whether industry type significantly influenced the strength of relationships in the structural model. The results of this moderation analysis, as presented in Table 5, indicate that Z-scores were below the critical value of 1.96, implying no significant moderating effect of industry sector on the relationships among PES, HRBP, and GHRM (Hair et al., 2014).

Table 5: Moderation Analysis results

Relationship	Manufacturing		Service		Z score
	Estimate	P value	Estimate	P value	
GHRM - PES	0.458	0.000	0.500	0.000	0.649

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e-ISSN: 2468-4376
https://www.jisem-journal.com/

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GHRM - HRBP	0.129	0.034	0.104	0.061	0.302

(Source: Data Processing Results on AMOS Software, 2025)

5. CONCLUSION AND DISCUSSION

The present research offers important insights into how Proactive Environmental Strategy (PES) and the evolving role of Human Resources (HR) as a strategic business partner influence the implementation of Green Human Resource Management (GHRM) within organizations in Vietnam. The findings suggest that adopting a proactive approach to environmental issues not only reflects an organization's strategic foresight but also strengthens its capacity to embed sustainability into human resource practices. By prioritizing ecological concerns at the strategic level, organizational leaders send a clear signal of their environmental commitment, which in turn fosters a culture of ecological responsibility among employees. As these employees internalize environmental values, they evolve into valuable, rare, and inimitable assets, contributing to sustained competitive advantage in line with the Resource-Based View (RBV) framework (Barney, 1991).

Moreover, the study found that environmental awareness is not limited to internal stakeholders. External actors, such as suppliers and customers, also demonstrated an alignment with the organization's green objectives, thereby reinforcing environmental values throughout the supply chain. This comprehensive integration of environmental priorities across both internal systems and stakeholder networks underlines a strategically grounded commitment to sustainability (Piwowar-Sulej, 2021).

Over time, HR has undergone a significant transformation from an administrative support unit to a strategic partner instrumental in shaping and implementing organizational vision (Khatoon, 2021). Today's HR professionals, particularly those acting in the HR Business Partner (HRBP) capacity, are essential in aligning HR policies with corporate strategy and sustainability goals. As Yusliza et al. (2017) emphasized, HRBP serve as critical change agents by embedding eco-conscious principles into hiring, training, performance management, and employee engagement. Through this strategic alignment, HR not only facilitates the adoption of green practices but also nurtures an environmentally aware workforce equipped to drive long-term ecological and organizational outcomes (Yusliza et al., 2017) .

The integration of green HRM practices catalyzes a deeper cultural shift within firms one that normalizes sustainability as a core organizational value and enhances operational performance through responsible behavior and resource efficiency.

While the industrial sector, especially manufacturing, has historically been held accountable for much of the environmental damage (Ong & Riyanto, 2020), recent research has also highlighted the environmental impact of the service sector (Tanova & Bayighomog, 2022). However, the findings of this study suggest that the implementation of PES, the HRBP role, and GHRM is not contingent on industry type. Both manufacturing and service-based organizations in Vietnam have demonstrated a heightened awareness of environmental responsibilities and have actively pursued initiatives to reduce waste, conserve energy and water, and foster green behaviors among employees.

Although operational contexts and environmental challenges differ across sectors, this study underscores a shared recognition across industries of the strategic necessity to incorporate environmentally sustainable practices. This signals a broader, cross-sectoral shift in Vietnam toward aligning entrepreneurship and HR practices with environmental stewardship and sustainable development goals.

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