

EXPLORING THE IMPACT OF GREEN BEHAVIOUR ON ORGANIZATIONAL GREEN PERFORMANCE: THE MEDIATING ROLE OF GREEN TRAINING PROGRAMS AND GREEN COMPENSATION IN VIETNAM'S ENERGY SECTOR

Sahilali Saiyed¹, Mustaqim Roshid², Vimal Kumar^{3*}, Quoc-Hieu Phan¹

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¹ Chaoyang University of Technology, Department of Business Administration, Taiwan

² University of Rajshahi, Department of Management Studies, Bangladesh

³ Chaoyang University of Technology, Department of Information Management, Taiwan

*Corresponding Author:

Vimal Kumar

Email:

vimaljss91@gmail.com

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ABSTRACT

Amid intensifying environmental concerns, sustainability has emerged as a strategic priority within the global energy industry, compelling organisations to adopt environmentally responsible practices. This study investigates the influence of green behaviour on organisational environmental performance, with a focus on the mediating roles of green training programs and green compensation practices in Vietnam's energy sector. Using a quantitative research design, data were collected from 826 employees in energy-related enterprises and analysed through Partial Least Squares Structural Equation Modelling. The findings confirm that green behaviour has a significant positive impact on environmental performance. Both green training and green compensation were found to exhibit partial mediation in the relationship between green behaviour and organisational environmental performance. These results contribute to the growing body of knowledge on sustainability-oriented human resource practices and offer practical insights for organisations seeking to improve environmental outcomes through employee-focused interventions.

Keywords: *Green Behaviour, Organizational Green Performance, Green Training Programs, Green Compensation, Energy Sector*

1. INTRODUCTION

Amid escalating global ecological pressures, sustainability has become a strategic imperative across industries. In response, Green Human Resource Management (GHRM) has emerged as a critical organizational framework that systematically integrates environmental objectives into HRM functions (Jabbour & Renwick, 2022). GHRM practices particularly green training and compensation are increasingly recognized for their role in fostering pro-environmental behaviors among employees, which in turn enhance organizational green performance (OGP) (Malik et al., 2021; Sun et al., 2024). However, empirical validation of these mechanisms remains uneven, particularly in resource-intensive sectors and developing economies.

The energy sector, responsible for the highest proportion of global carbon emissions, represents a focal point for sustainability transformation (Jaiswal et al., 2022). Vietnam's energy industry is both rapidly expanding and environmentally consequential, intensifying the urgency of implementing robust GHRM practices (Roscoe et al., 2019). In this context, green training programs are designed to build employees' environmental awareness and competence, while green compensa-

tion systems function as motivational levers to align individual behaviours with corporate sustainability goals (Yin et al., 2023). Yet, the effectiveness of these practices remains largely unexplored in Vietnam's institutional context, where cultural norms, regulatory enforcement, and organizational capabilities may differ from those in high-income economies (Chiarini & Bag, 2024).

Although training is theoretically positioned as a capacity-building mechanism (Pham et al., 2018), empirical findings indicate its limited behavioral impact unless accompanied by reinforcement structures (Memon et al., 2022; Barakat et al., 2023). In contrast, compensation practices particularly when explicitly linked to environmental KPIs have demonstrated stronger behavioral outcomes, combining extrinsic motivation with symbolic signalling (He & Mushtaq, 2023; Elshaer et al., 2021). Recent studies further suggest that organizations with formalized green incentive systems outperform those that rely solely on awareness-based interventions (Martins et al., 2021). However, the synergistic interaction between training and compensation remains under-theorized, particularly regarding their mediating role in the green behaviour–OGP relationship (Kuo et al., 2022).

The literature on GHRM and sustainability is predominantly situated in developed countries, creating a contextual blind spot for emerging economies such as Vietnam (Zhang & Panatik, 2024; Al-Nimer, 2025). The Southeast Asian region remains underrepresented in empirical GHRM research (Tang et al., 2023). Prior studies tend to adopt a reductionist approach, examining isolated HR practices without accounting for their interdependencies or contextual embeddedness (Bourini et al., 2024). As Vietnam enforces increasingly stringent environmental regulations (Vázquez-Brust et al., 2022), a more integrated understanding of how GHRM practices interact to produce behavioural and performance outcomes is urgently needed. Furthermore, the behavioural implications of regulatory compliance remain largely untested—raising critical questions about whether top-down environmental mandates effectively translate into bottom-up behavioural transformation (Tang et al., 2023; Alqudah & Yusof, 2024).

This research investigates how GHRM, including training and compensation, generate sustainable performance results in energy sector. This emerging sector have witnessed an increasing importance of green training and green compensation for enhancing organisational green performance. Based on above information this study has developed research questions and objectives mentioned below.

Research Questions:

- RQ1: To investigate the direct impact of green behaviour on organizational green performance.
- RQ2: To examine the mediating role of green training programs between green behaviour and organizational green performance.
- RQ3: To examine the mediating role of green compensation practices between green behaviour and organizational green performance.

Research Objectives:

This study aims to:

- (1) Evaluate the direct influence of green behaviour on organizational green performance in Vietnam's energy sector.
- (2) Analyse the mediating role of green training programs in the relationship between green behaviour and organizational green performance.
- (3) Analyse the mediating role of green compensation practices in the relationship between green behaviour and organizational green performance.
- (4) Provide actionable recommendations for improving GHRM practices to advance environmental sustainability goals within the energy sector.

The structure of the study is as follows: Part (1) Introduction deals with the background, research questions, and objectives of the study. Part (2) Literature Review presents the theoretical foundation for the research and identifies previous literature gaps. Part (3) Methodology presents the research design and data analysis techniques. Part (4) Results include demographic analysis and path coefficients. Part (5) Discussion focuses on the theoretical and practical implications. Part (6) Conclusion summarises the main findings.

2. LITERATURE

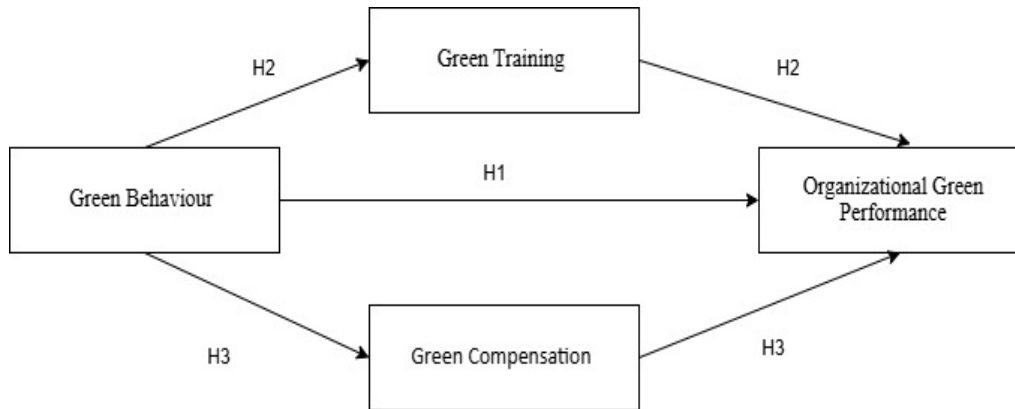
2.1. THEORETICAL OVERVIEW

This study is conceptually grounded in the Theory of Planned Behaviour (TPB), a widely adopted psychological framework that explains how individual behavioural intentions translate into actual behaviour through the influence of three primary constructs: attitude, subjective norms, and perceived behavioural control (Ajzen, 1991). Within the context of Green Human Resource Management (GHRM), these constructs provide a robust foundation for understanding how and why employees engage in green behaviour (GB), particularly when shaped by organizational interventions. Prior empirical studies affirm that GB significantly contributes to organizational green performance (OGP), particularly when embedded in formal sustainability frameworks and practices (Peretz, 2024; Norton et al., 2015).

While TPB offers a theoretical pathway to link individual pro-environmental behaviour with organizational outcomes, the mechanisms by which HRM practices operationalize these pathways remain underexplored. Emerging evidence suggests that green training (GT) is most effective when implemented alongside broader behavioural reinforcement systems and aligned with environmental performance goals (Ahmad et al., 2023; Barakat et al., 2023). In parallel, green compensation (GC) through structured monetary and non-monetary incentives has shown a strong capacity to reinforce environmentally responsible conduct by aligning individual interests with organizational sustainability objectives (He & Mushtaq, 2023). When incentive structures are explicitly tied to environmental performance, employees are more likely to internalize pro-environmental values and develop sustained eco-conscious behaviours (Martins et al., 2021; Vadithe et al., 2025).

This study extends TPB by embedding it within a mediated GHRM framework, proposing that GB directly influences OGP while GT and GC function as mediating mechanisms. This operationalization aligns with TPB's core assertion that behavioural intention and action are shaped not only by internal dispositions but also by external, structural enablers. Within this model, HRM interventions serve as both behavioural antecedents and organizational catalysts, enabling a dual pathway through which GB is both fostered and translated into performance outcomes. By conceptualizing GT and GC as strategic HR instruments, the model offers a coherent explanation of how employee-level environmental behaviour can be institutionalized and scaled within organizations operating in complex and emission-intensive sectors like Vietnam's energy industry. This theoretical articulation also fills an important gap in the literature, where the interaction between behavioural theory and HRM practice remains insufficiently developed, particularly in non-Western, developing-economy contexts.

Figure 1. Theoretical Framework



Source: Author's own

2. 2. GREEN BEHAVIOUR AND ORGANISATIONAL GREEN PERFORMANCE NEXUS

The literature consistently underscores the pivotal role of employee green behaviour (GB) in driving organisational green performance (OGP). GB refers to individual actions aligned with environmental goals, which, when embedded across organisational levels, foster a culture of sustainability and accountability. Numerous studies affirm that GB, supported by Green Human Resource Management (GHRM) practices, contributes positively to environmental outcomes by integrating eco-consciousness into daily work routines (Peretz, 2024). Sinaga et al. (2024) demonstrated this linkage in the tourism sector, where structured sustainability initiatives yielded enhanced green outcomes. Similarly, Sun et al. (2024) and Chandra and Pendrian (2024) found that fostering GB in IT and service industries correlates with measurable improvements in OGP. Strategically, GB ensures that employees internalise environmental values, enhancing engagement in green initiatives and aligning their behaviours with the firm's ecological objectives. Alherimi et al. (2024) and Cao et al. (2024) further emphasise that organisations with high GB levels achieve superior long-term green performance, underscoring GB's critical function in operationalising sustainability strategies. Therefore, cultivating GB is essential for institutions aiming to institutionalise environmental responsibility and achieve enduring performance gains.

Hypothesis 1: Green behaviour positively influences organisational green performance.

2. 3. GREEN TRAINING PROGRAMS ON GREEN BEHAVIOUR AND ORGANISATIONAL GREEN PERFORMANCE NEXUS

Green training programs (GT) play a pivotal role in shaping employee green behaviour (GB) and enhancing organisational green performance (OGP). These programs serve as mechanisms through which employees acquire environmental knowledge, develop relevant skills, and build motivation aligned with organisational sustainability goals (Yafi et al., 2021; Ahmad et al., 2023). GT fosters a green organisational culture by embedding sustainability principles into employee learning, thereby reinforcing pro-environmental behaviour across operational levels (Sun et al., 2024; Gomes et al., 2024). Empirical findings substantiate GT's mediating role in the GB–OGP relationship, demonstrating that structured training enhances employees' commitment to environmental practices and contributes to measurable improvements in OGP (Memon et al., 2022; Pham et al., 2018).

Moreover, GT has been identified as a catalytic component within GHRM frameworks, functioning as an indirect enabler of sustainability outcomes through behavioural transformation (Malik et al., 2021). Studies by Mayangsari and Nawangsari (2019) and Saputro and Nawang-

sari (2021) affirm that well-designed GT initiatives elevate employee motivation to engage in green practices, ultimately leading to superior environmental performance. While GT's mediating influence is widely acknowledged, recent literature highlights that its effectiveness is enhanced when integrated within broader organisational sustainability strategies (Barakat et al., 2023) and aligned with employee identification with corporate environmental values (Ribeiro et al., 2022). Collectively, these insights reinforce the proposition that GT is not only foundational for cultivating GB but also instrumental in translating employee engagement into sustainable organisational outcomes.

Hypothesis 2: Green training programs positively mediate the relationship between green behaviour and organisational green performance.

2. 4. GREEN COMPENSATION ON GREEN BEHAVIOUR AND ORGANISATIONAL GREEN PERFORMANCE

Green compensation (GC) has emerged as a critical enabler in aligning employee green behaviour (GB) with organisational green performance (OGP), functioning as both a motivator and a strategic HR lever. By linking financial and non-financial incentives to sustainability targets, GC mechanisms encourage employees to adopt pro-environmental behaviours that contribute to quantifiable improvements in environmental performance (He & Mushtaq, 2023; Saiyed et al., 2024). Empirical evidence suggests that well-structured GC systems facilitate the institutionalisation of sustainable practices within organisational processes, thereby strengthening overall green outcomes (Elshaer et al., 2021; Yue et al., 2023). Martins et al. (2021) highlighted GC's mediating role between GB and OGP in healthcare settings, while Kuo et al. (2022) identified its effectiveness in enhancing green performance in the chemical sector. Similarly, Vadithe et al. (2025) demonstrated that GC acts as a strategic sustainability enabler in service-based firms.

Studies further indicate that GC supports the behavioural transition from individual environmental concern to sustained organisational performance by embedding reward structures within broader GHRM frameworks (Danilwan et al., 2020; Saputro & Nawangsari, 2021). However, the effectiveness of GC is not without complexity. Zhang and Sun (2021) caution that when GC is not harmonised with green training (GT), it may create cognitive dissonance, potentially diminishing employees' intrinsic motivation toward environmental action. Therefore, the impact of GC is highly dependent on its integration with other HRM elements and the organisational context in which it operates.

Despite broad consensus on its value, existing research remains constrained by methodological limitations. Much of the literature relies on cross-sectional designs, limiting causal inferences between GB and OGP (Memon, 2022; Malik, 2021; Ribeiro, 2022). Additionally, most empirical studies are concentrated within the healthcare, manufacturing, and service sectors, leaving a gap in understanding GC's role within high-emission industries such as energy (Kuo et al., 2022; Vadithe et al., 2025).

Hypothesis 3: Green compensation positively mediates the relationship between green behaviour and organisational green performance.

2. 5. LITERATURE GAP

While prior studies have explored the influence of Green Human Resource Management (GHRM) practices particularly green training (GT) and green compensation (GC)—on organisational green performance (OGP) across various sectors, the majority of this research has focused on manufacturing, services, and healthcare industries (Roscoe et al., 2019; Sun et al., 2024; Chiarini & Bag, 2024). There remains a significant gap in understanding how these me-

diating mechanisms operate within the energy sector, especially in emerging economies such as Vietnam, where environmental challenges are acute and sustainability strategies are imperative. Despite the relevance of GHRM for high-emission sectors like energy, current literature fails to contextualise GHRM approaches within Vietnam's unique socio-organisational and cultural frameworks, which can significantly influence the effectiveness of sustainability interventions (Ardra & Barua, 2022; Tang et al., 2023). Moreover, while green compensation has shown consistent mediating strength in enhancing OGP, empirical evidence regarding the efficacy and limitations of green training programs remains inconclusive. This study addresses this gap by empirically examining both GT and GC as mediators in the Vietnamese energy sector, thus offering novel insights into how GHRM can drive organisational sustainability in high-impact, under-researched contexts (He & Mushtaq, 2023; Saiyed et al., 2024).

3. RESEARCH METHODOLOGY

3. 1. RESEARCH DESIGN

This study adopted a quantitative cross-sectional research design and employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the relationships among green behaviour (GB), green training (GT), green compensation (GC), and Organizational Green Performance (OGP). PLS-SEM was chosen due to its suitability for modeling complex relationships involving latent constructs and its flexibility with non-normal data. Recent studies in the field of Green Human Resource Management (GHRM) have effectively utilized PLS-SEM to explore the impact of GHRM practices on organizational sustainability outcomes. For instance, Makumbe (2024) demonstrated that GHRM practices significantly improved, when using PLS-SEM. Following this established methodological approach, PLS-SEM was deemed appropriate for this study to capture the structural relationships within the proposed research model.

3. 2. DATA COLLECTION

This data for this study were obtained from participants who work in Vietnam energy related establishments such as electricity, oil and energy transport. Those sectors have been selected since they are large emitters of environmentally polluting agents, and they are crucial for attaining environmental sustainability. Questionnaires were administered to employees and managers working in these industries, through which their perceptions and experiences about green behaviours, organizational practices, and green performance outcomes were recorded.

3. 3. SAMPLING TECHNIQUE

A purposive sampling technique was employed to target respondents with relevant knowledge and experience in sustainability practices within the energy sector. The sample includes professionals at various organizational levels, ensuring diverse perspectives on the constructs under investigation. A total of 826 valid responses were collected, providing a robust dataset for statistical analysis.

3. 4. DATA ANALYSIS

The PLS-SEM analysis method evaluated hypothesis relationships and GT and GC's mediating effects when conducted on the data. The Measurement model achieved its internal consistency reliability and convergent validity tests using Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE). The discriminant validity assessment made use of Heterotrait-Monotrait (HTMT) ratio of correlations according to (Henseler et al., 2015) criteria. All values of HTMT method fell beneath the recommended threshold of 0.85 which

indicates distinct empirical measurement for each identified construct. The model's explanatory power through R-squared (R^2) coefficients was combined with indicator reliability assessments conducted by examining outer loadings. A bootstrapping procedure with 5,000 resamples determined the significance levels of direct and indirect and total effects by creating bias-corrected confidence intervals.

3. 5. ETHICAL CONSIDERATIONS

Participants were informed that the data collected from them will be anonymous and responses will remain confidential. The survey was done in a random manner where participants were asked to participate willingly and agreed to participate by giving their informed consent before responding to the questions in the survey.

4. RESULTS

Table 1. Demographic Data

Demographic	Category	Respondents	Percentage
Age	20-25 years	124	15.01%
	26-30 years	206	24.94%
	31-40 years	248	30.02%
	41-50 years	165	19.98%
	51 years and above	83	10.05%
Gender	Male	496	60.05%
	Female	330	39.95%
Marital Status	Married	537	65.01%
	Unmarried	289	34.99%
	Intermediate Vocational	41	4.96%
	College	124	15.01%
	University	289	34.99%
	Master's	248	30.02%
	Doctoral	99	11.99%
	Others	25	3.03%
Work Experience	Less than 2 years	165	19.98%
	2-5 years	248	30.02%
	6-10 years	206	24.94%
	11-15 years	124	15.01%
	More than 15 years	83	10.05%
Total		826	100%

Source: Author's analysis

The demographic analysis of the study sample (N=826) provides critical insights into the workforce composition within the Vietnamese context. The majority of respondents (30.02%) fall within the 31-40 years age bracket, followed by 26-30 years (24.94%) and 41-50 years (19.98%), reflecting a workforce primarily in their early to mid-career stages. Gender distribution indicates a male-dominated sample (60%), aligning with the prevailing labor market trends in Vietnam's key industrial and business sectors. Marital status reveals that 65% of the respondents are married, suggesting a population balancing professional and familial responsibilities. Educational qualifications highlight that a significant proportion hold university degrees (35%), with another 30% possessing master's qualifications, indicating a highly educated workforce.

Notably, 12% hold doctoral degrees, underscoring an emphasis on advanced research and academia. Work experience distribution suggests that the largest group (30%) has 2-5 years of experience, followed by 6-10 years (25%), indicating a predominance of professionals in the early to mid-stages of their careers.

Table 2. Construct Reliability, Validity, and Indicators

Construct	Indicators	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Green Behaviour (GB)	GB1, GB2, GB3, GB4, GB5, GB6, GB7, GB8, GB9	0.954	0.961	0.732
Green Compensation (GC)	GC1, GC2, GC3, GC4, GC5	0.921	0.941	0.760
Green Training (GT)	GT1, GT2, GT3, GT4, GT5	0.925	0.944	0.771
Organizational Green Performance (OGP)	OGP1, OGP2, OGP3, OGP4, OGP5	0.934	0.950	0.791

Source: Author's analysis

Results from the reliability and validity analysis verify which can be seen in Table 2 that all constructs including green behaviour (GB), green compensation (GC), green training program (GT) and organizational green performance (OGP) possess strong internal consistency as well as convergent validity. Green behaviour (GB) measurement utilized nine factors GB1–GB9 which produced Cronbach's Alpha 0.954 and Composite Reliability 0.961 and Average Variance Extracted 0.732. Tests validate green compensation (GC) with five indicators (GC1–GC5) through Cronbach's Alpha of 0.921 while recording Composite Reliability of 0.941 and Average Variance Extracted of 0.760. The measurement scale green training program (GT) consisting of indicators GT1 through GT5 yielded a Cronbach's Alpha of 0.925 while achieving the metrics of CR of 0.944 and AVE of 0.771. The five indicators under organizational green performance (OGP1–OGP5) achieved the most reliability according to Cronbach's Alpha measurements at 0.934 while CR was 0.950 and AVE was 0.791. The structural analysis can proceed because all validation values surpass the recommended thresholds that demonstrate both reliability and convergent validity in the measurement model (Fornell & Larcker, 1981; Hair et al., 2014).

Table 3. HTMT Discriminant Validity

Constructs	GB	GT	GC	OGP
GB	—	0.682	0.715	0.743
GT	0.682	—	0.701	0.720
GC	0.715	0.701	—	0.760
OGP	0.743	0.720	0.760	—

Source: Author's analysis

The research used Heterotrait-Monotrait (HTMT) ratio of correlations to test discriminant validity. All HTMT values in Table 3 remain underneath the conservative boundary of 0.85 which proves that the variables maintain separate empirical status. The satisfactory results from HTMT confirm that GB, GT, GC, and OGP have distinct qualities which strengthens the measurement model's reliability (Henseler et al., 2014).

Table 4. Outer Loadings

Indicator	GB	GC	GT	OGP
GB1	0.871			
GB2	0.824			
GB3	0.839			
GB4	0.856			
GB5	0.860			
GB6	0.870			
GB7	0.862			
GB8	0.839			
GB9	0.877			
GC1		0.860		
GC2		0.866		
GC3		0.871		
GC4		0.887		
GC5		0.875		
GT1			0.856	
GT2			0.881	
GT3			0.914	
GT4			0.880	
GT5			0.856	
OGP1				0.902
OGP2				0.884
OGP3				0.885
OGP4				0.898
OGP5				0.876

Source: Author's analysis

As it can be seen from Table 4, the outer loadings for the constructs green behaviour (GB), green compensation practices (GC), green training programs (GT), and organizational green performance (OGP) indicate high indicator reliability. For GB, the loadings range from 0.824 (GB2) to 0.877 (GB9), consistently exceeding the recommended threshold of 0.7, which confirms that all indicators reliably measure the construct. Similarly, GC exhibits strong loadings, ranging from 0.860 (GC1) to 0.887 (GC4), demonstrating high reliability across all items. The loadings for GT range between 0.856 (GT1 and GT5) and 0.914 (GT3), further affirming the robustness of the indicators in capturing the construct. OGP also displays excellent reliability, with loadings ranging from 0.876 (OGP5) to 0.902 (OGP1). These results validate the measurement model, ensuring that all indicators are appropriately contributing to their respective constructs, thereby supporting the model's reliability and validity for further structural analysis.

Table 5. R-Square Overview

Construct	R-Square	R-Square Adjusted
GC	0.713	0.713
GT	0.776	0.776
OGP	0.835	0.834

Source: Author's analysis

The R-Square of the overview Table 5 gives out the model fit in regard to each construct respectively. The R-Square value of the green compensation (GC) is 0.713; this means that 71.3 per-

cent of the volatility in GC is influenced by the predictors in the model. Likewise, green training (GT) shows a slightly better R-Square value of 0.776, which means 77.6% of the changes in GT can be explained by the independent variables used in the model. Here, organizational green performance (OGP) has the highest value of R-Square as 0.835; therefore, 83.5 percent variability in OGP is explained. The adjusted R-Square values of all constructs are virtually the same implying that there is little over fitting of the model. Therefore, these findings provide evidence for construct validity and practical applicability of the model and its constructs for hypothesis testing and subsequent analysis.

Table 6. Direct Effect and Total Effect Analysis

Hypothesis	Relationship	Total Effect (β)	T-value	P-value	Direct Effect (β)	T-value	P-value
H1	GB $\rightarrow$ OGP	0.830	32.663	0.000	0.211	3.316	0.001

Source: Author's analysis

The analysis indicates that green behaviour (GB) facilitates extensive and very significant organizational green performance (OGP) outcomes ($\beta = 0.830$, T-value = 32.663, $p < 0.001$) which demonstrates employee green behaviour promotion enhances substantial sustainability outcomes for organizations. The direct influence of GB on OGP persists after mediator adjustment because its effect size amounts to $\beta = 0.211$ (T-value = 3.316, $p = 0.001$). This indicates GB produces individual benefits for OGP enhancement.

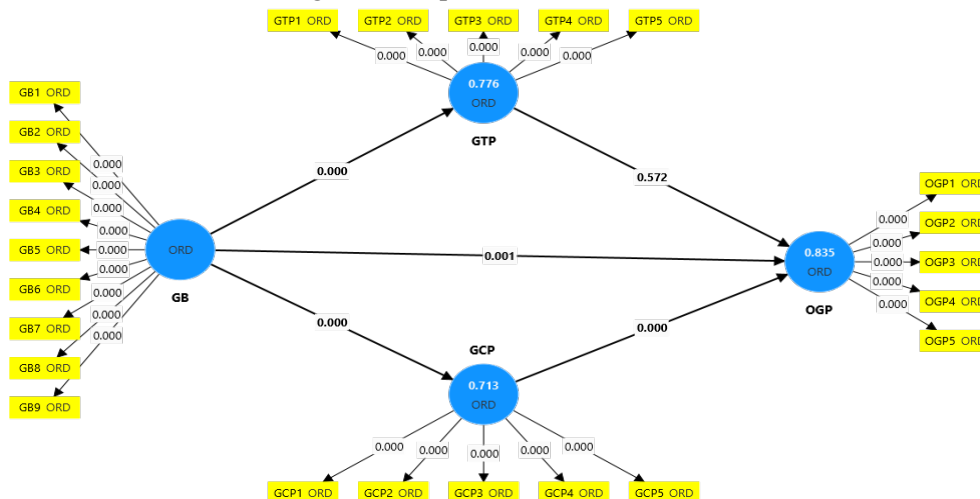
Table 7. Mediation (Indirect Effect) Analysis

Hypothesis	Path	Indirect Effect (β)	T-value	P-value	95% Bootstrap Confidence Interval
H2	GB $\rightarrow$ GT $\rightarrow$ OGP	0.038	0.563	0.573	(-0.089, 0.173)
H3	GB $\rightarrow$ GC $\rightarrow$ OGP	0.582	9.001	0.000	(0.452, 0.702)

Source: Author's analysis

Results from the mediation analysis show no significant mediation effect of green training programs (GT) in the connection between green behaviour (GB) and organizational green performance (OGP) ($\beta = 0.038$, T-value = 0.563, $p = 0.573$) because the 95% confidence interval encompasses zero. Research findings show a strong significant mediation effect for green compensation (GC) at $\beta = 0.582$ with T-value = 9.001 and $p < 0.001$ as the confidence interval spans from 0.452 to 0.702. The study results show green compensation serves as an effective tool to enhance employee green behaviour impacts on sustainable organizational outcomes but green training methods need possible adjustment to achieve better results.

Figure 2. Proposed Structural Model



Source: Author's analysis

5. DISCUSSION

This study provides compelling empirical evidence that green behaviour (GB) exerts a strong positive influence on organisational green performance (OGP), both directly and through mediating mechanisms. The analysis shows that GB significantly enhances OGP ($\beta = 0.211$, T-value = 3.316, $p = 0.001$), confirming its independent and substantial role in driving sustainability outcomes. These findings are consistent with earlier literature that identified employee environmental behaviour as a catalyst for improved ecological performance in various organisational settings (Wu, 2013; Ahmad et al., 2023; Roshid et al., 2025).

However, the mediating effects of green training programs (GT) and green compensation (GC) reveal differentiated outcomes. The insignificant mediation effect of GT ($\beta = 0.038$, T-value = 0.563, $p = 0.573$; CI = -0.089 to 0.173) indicates that current training interventions in Vietnam's energy sector may not effectively translate pro-environmental attitudes into measurable performance outcomes. While GT is often highlighted as a mechanism for developing environmental knowledge, skills, and attitudes (Yafi et al., 2021; Ahmad et al., 2023; Saiyed et al., 2025), its weak mediation suggests a disconnect between training design and practical behavioural change. This may stem from generic content, lack of behavioural reinforcement, or insufficient strategic integration into broader organisational goals.

In contrast, green compensation (GC) demonstrates a significant and strong mediating role between GB and OGP ($\beta = 0.582$, T-value = 9.001, $p < 0.001$; CI = 0.452 to 0.702). This result aligns with prior studies suggesting that linking compensation to sustainability metrics encourages employees to align their efforts with environmental targets (He & Mushtaq, 2023; Martins et al., 2021; Vadithe et al., 2025). GC not only provides tangible motivation through monetary and symbolic rewards but also signals institutional commitment to sustainability, fostering a stronger green culture.

The contrasting outcomes between GT and GC invite further theoretical reflection. While both mechanisms are central to GHRM, their effectiveness appears contingent on implementation fidelity and contextual adaptation.

5.1. IMPLICATIONS FOR PRACTICE

This study offers valuable tips for human resource and sustainability managers, mainly in areas such as the Vietnam energy sector. It was found that employee green behaviour (GB) is an important resource that boosts organisational green performance (OGP). For this reason, managers ought to support green actions by adding them to HRM methods such as job responsibilities, performance assessments and key performance metrics.

Green compensation (GC) is important because they link financial rewards with environmental achievements. Businesses are encouraged to include financial and non-financial elements in their GC structures. They ensure that both individuals and the company commit to sustainability as one of its most important values.

There is a need to reconsider how green training (GT) are designed because they do not play a strong mediating role. Rather than holding standard training classes, companies should involve the sustainability department and supervisors to develop training for specific situations. Adding real-world environmental problems to training makes it more likely for the training to influence behaviour.

Considering the research took place in an industry that evolves quickly in a developing economy, managers must adapt GHRM practices to the local market. Designing and carrying out green HR initiatives should be based on what is expected in the culture, as well as the rules and abilities available within the organisation.

Furthermore, this research confirms that GHRM should be based on a systems model, connecting green training, green compensation, leadership efforts and recruitment within a linked

approach to sustainability. Managers need to ensure that their operations and environment align with their strategies so that their companies perform well in the long term and stand out as sustainability leaders in heavily regulated industries.

5. 2. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

While the study provides helpful information, it is restricted by using linear models and collecting data only in one period. Using fsQCA and machine learning can help identify complicated arrangements and threshold effects in GHRM. Additionally, incorporating moderating variables—such as organizational climate or leadership style—could reveal conditional dynamics often masked in mediation-only models. Expanding beyond the Vietnamese energy sector, multi-level and cross-country studies are needed to assess institutional influences on GHRM effectiveness. Finally, future work should adopt an integrated systems approach, examining how multiple GHRM practices interact synergistically to influence organizational green performance.

6. CONCLUSION

This study provides a comprehensive examination of how employee green behaviour contributes to organisational green performance within Vietnam's energy sector, incorporating the roles of green training and green compensation as key mediating mechanisms. The findings confirm that environmentally responsible employee actions directly enhance organisational sustainability outcomes, highlighting green behaviour as a critical driver of performance in environmentally sensitive industries.

The analysis further reveals that while green training is often conceptualised as a cornerstone of GHRM strategy, its mediating influence appears limited within this context. This suggests that the current structure or delivery of training programs may not sufficiently align with behavioural drivers necessary to achieve measurable environmental outcomes. In contrast, green compensation emerges as a robust mechanism linking individual behaviours with organisational goals. By embedding sustainability targets within incentive systems, organisations effectively reinforce and sustain green performance across operational levels.

The study extends the current understanding of GHRM by disentangling the differential impacts of training and compensation within a developing economy context. It underscores the strategic value of integrating performance-based environmental incentives while also signalling the need to re-evaluate developmental approaches to training. The evidence presented enriches the discourse on how human resource interventions can shape sustainable transformation in high-impact sectors, offering nuanced insight into the behavioural pathways that underpin effective environmental management.

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