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Enhancing Sustainable Performance via GHRM: Roles of Green Innovation and Organisational Culture in the Batam Hospitality Sector

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Abstract. *The depletion of natural resources and the intensification of climate change have become pressing global challenges for sustainable development. This study examines how Green Human Resource Management (GHRM) influences sustainable performance in the hospitality sector of Batam, with green innovation and organizational culture serving as mediating factors. Using a quantitative approach and Partial Least Squares-Structural Equation Modeling (PLS-SEM), data were collected from 400 respondents working in hotels and resorts. The findings reveal that GHRM significantly enhances sustainable performance, primarily through the mediation of organizational culture and green innovation, with organizational culture emerging as the stronger mediator. These results emphasize the importance of integrating sustainability into human resource strategies to balance operational efficiency, environmental responsibility, and long-term success. Practically, hotels are encouraged to implement green training programs, incorporate environmental criteria into performance evaluations, and establish cross-functional teams to foster innovation and cultural change.*

Keywords: *Green Innovation, Green Human Resource Management, Organizational Culture, Sustainable Performance*

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INTRODUCTION

The destruction of the natural environment and resources, worsened by global issues such as climate change, is a significant concern for sustainable development efforts. According to the International Energy Agency (IEA, 2025), total CO_2 emissions from energy will increase by 0.8% in 2024, reaching a record high of 37.8 gigatons. This condition shows that economic and industrial activities continue to put significant pressure on the environment. In the face of this, business sectors are increasingly recognizing the importance of sustainable development (Hori, 2020). This pressure drives a shift in organizational management.

Companies are required not only to pursue financial gains but also to create social and environmental value. To measure organizational performance holistically, the most popular paradigm is the Triple Bottom Line, which incorporates people, planet, and profit (Palmer & Flanagan, 2016). According to this model, a company's capacity to achieve sustainable performance depends on how well it manages three interrelated goals: social responsibility, economic development, and environmental conservation (Nogueira et al., 2025).

Organizations must incorporate environmental management techniques into HR operations to achieve long-term success. This strategy, which aims to improve businesses' economic, social, and environmental performance, is called Green Human Resource Management (GHRM) (Malik et al., 2021). Overall performance and sustainability are boosted by GHRM's

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favorable effects on green behavior among workers, environmental innovation, and organizational sustainability (Palupiningtyas & Wahono, 2023). This strategy promotes a shift in company culture towards sustainability while simultaneously enhancing operational efficiency (Wu et al., 2019; Alves & Alves, 2015; Asif et al., 2024; Roscoe et al., 2019; Setyadi et al., 2025; Fok et al., 2022; Wang, 2019).

In the context of the hospitality industry that relies heavily on human interaction and quality of service, the implementation of GHRM has become particularly relevant to increase employee engagement in achieving sustainability goals. According to the latest Booking.com Sustainability Report (2025), a staggering 84% of travelers confirm that sustainable travel remains important to them. This significant market demand is now being met by industry action. Indeed, recent evidence shows that over half (55%) of hospitality organisations report actively working on integrating sustainability into their HR policies (WifiTalents, 2025).

Findings on GHRM in the hospitality sector are still limited, suggesting that the practice of GHRM in the hospitality industry is still in its early stages and requires more research and investigation (Tulsi & Ji, 2020). Batam, chosen as the object of investigation, offers a unique and strategic context. Batam is known as an industrial city and an international tourist destination that actively promotes an environmentally friendly, sustainable image (Dailami et al., 2022). The contribution of the tourism and hospitality sectors to the regional economy also reflects the strategic potential of this region.

The accommodation provision sector in Kepulauan Riau contributes 2.67% to the total Gross Regional Domestic Product (GDP) at 2024 prices (BPS, 2025). Several hotels in Batam have begun implementing green building principles, but systematic mapping of how to integrate organizational culture, green innovation, and GHRM to achieve sustainable performance has been limited (Nurhakim et al., 2024). The finding sample consisted of hotel employees in Batam, who provided a hands-on perspective on the implementation of GHRM in the local context.

To better understand this phenomenon, it is important to clarify the conceptual foundations underlying the study. GHRM is the practice of integrating environmental sustainability into human resource processes to build an environmentally conscious workforce that supports a company's sustainability strategy by aligning people management with environmental objectives (Benevene & Buonomo, 2020). A company operates sustainably when its long-term goals align with the Sustainable Development Goals, balancing economic growth, social well-being, and environmental preservation (Zhou et al., 2023).

Employees tend to choose companies that care about sustainability (Casey & Sieber, 2016). As part of its GHRM strategy, a company may ensure compliance with official environmental standards and promote employee engagement in green workplace activities. As for the example, workers can encourage sustainable commute choices (Benevene & Buonomo, 2020). In addition to addressing immediate financial concerns, the GHRM's adoption will have far-reaching effects on society and the environment (Martínez-Falcó et al., 2024).

Increased organizational performance is a direct result of this impact, consistent with the enhanced environmental performance achieved by GHRM (Norma et al., 2022). By aligning HR practices with social, environmental, and financial goals, GHRM enhances sustainable performance. GHRM fosters a green organizational culture and promotes pro-environmental behavior, strengthening the organization's ability to achieve its sustainability goals (Jabbour & Renwick, 2018).

Furthermore, GHRM plays a vital role in supporting green innovation within organizations by recruiting and developing employees with the knowledge, skills, and enthusiasm to apply environmentally responsible practices. GHRM fosters a culture that promotes green innovation and strengthens sustainable performance (Li et al., 2020). Marditama et al. (2024) emphasized that one of the most important factors that motivates green innovation in firms is the environmental values and beliefs held by workers.

By providing workers with sustainability-focused training and skill development programs, GHRM encourages them to take part in creative initiatives that support the company's green goals (Tu et al., 2024). In addition to providing training and incentives, such as bonuses and recognition, GHRM also fosters an environment that supports the application of green skills, ultimately encouraging employees to develop sustainable, innovative solutions (Martínez-Falcó et al., 2024). By encouraging employees to engage in green initiatives through GHRM practices, organizations can ensure that employee behavior aligns with the company's vision and helps achieve sustainability goals, thereby improving their innovative performance (Hameed et al., 2020).

Green innovation itself includes the development of new products, processes, or business models that focus on sustainable performance aspects (Hakim, 2023). Green process innovation allows companies to reduce waste, thereby fundamentally improving the sustainability of their operations (Li et al., 2023). Green environmental protection efforts extend beyond green process innovation to include green product innovation. It encourages businesses to create and offer eco-friendly products and services, which enhance their sustainability performance by improving environmental, social, and economic outcomes (Saudi et al., 2019).

Green innovation enhances a company's social performance by strengthening relationships with stakeholders and improving its reputation. Environmentally responsible practices build trust, increase customer loyalty, and boost employee engagement. Consequently, the social benefits of green innovation contribute to long-term organizational success and sustainability (Li et al., 2020). Fostering sustainable practices not only improves long-term business performance but also boosts brand value. Moreover, a strong green brand reputation attracts loyal customers and motivated employees, reinforcing the firm's long-term sustainability and competitive advantage.

A company's sustainable performance may be improved via the use of GHRM, which focuses on enhancing green innovation (Marditama et al., 2024). However, the effectiveness of GHRM and green innovation cannot be separated from organizational culture. Employees may have difficulty participating in GHRM if the initiative is not aligned with the organization's culture (Cen, 2023). On the contrary, the implementation of GHRM can strengthen organizational culture by instilling an eco-mindset in employees (Verma & Vetrivel, 2025).

According to Hastuti (2022), when an organization values environmentally oriented activities and seeks to minimize the negative impact of its operations, it creates a culture that supports the implementation of GHRM by encouraging recruitment, training, assessment, and incentivization processes focused on pro-environmental practices, thereby strengthening the GHRM dimension within the organization. In line with this, Aggarwal & Agarwala (2023) and Muisyo et al. (2022) study found that GHRM not only improves overall organizational performance but also significantly contributes to a more sustainable corporate culture.

Therefore, implementing GHRM is essential to developing an organizational culture that prioritizes long-term ecological and social responsibility alongside business objectives. Organizational culture itself has an important role in encouraging sustainable performance. The dominant values, beliefs, attitudes, and behaviors in an organization shape how employees view their work and their contributions to efforts toward sustainable performance (Adeoye et al., 2023). To achieve sustainability goals, companies need to align their corporate strategies and policies with an organizational culture that focuses on sustainability (Sapta et al., 2021).

Through GHRM, sustainability can be integrated into organizational culture, thereby instilling green values and behaviors. This alignment embeds sustainability in the corporate identity and strengthens the organization's ability to achieve long-term sustainability (Ali et al., 2024). Furthermore, organizational leaders are responsible for formulating and implementing policies and procedures that comply with social, environmental, and economic standards. These policies are then interpreted by members of the organization within a sustainability-oriented culture (Rodríguez-González et al., 2023).

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The beliefs and practices of workers, along with the company's goals and objectives, are significant indicators of its culture. Such cultures inspire employees to exceed expectations, thereby driving better organizational outcomes (Laulita & Setyawan, 2021). From a strategic perspective, GHRM enhances sustainable performance by fostering green innovation and strengthening organizational culture. GHRM not only promotes the adoption of environmentally friendly practices but also supports the development of skilled and committed human resources who embrace green practices (Awwad et al., 2022).

In addition, from a resource-based perspective, GHRM is seen as a strategic resource that focuses on the environment, supporting the creation of green innovation and enhancing sustainable performance (Singh et al., 2020). GHRM is increasingly acknowledged as a crucial strategy for implementing environmental practices that drive green innovation and advance sustainable development (Martínez-Falcó et al., 2024). Employees actively engaged in green innovation play a vital role in helping companies enhance performance and secure sustainable competitive advantages (Rehman et al., 2021).

Through GHRM, organizations can build positive psychological relationships with employees, which contribute to changes in employee attitudes and behaviors. Thereby, improves organizational performance and the resulting environmental performance (Norma et al., 2022). The practice of GHRM supports the implementation of integrated environmental policies in daily organizational activities (Al-Alawneh et al., 2024; Tsymbaliuk et al., 2021; Longoni et al., 2018), resulting in direct impacts on employee behavior and performance, as well as on corporate sustainability.

According to Valentina & Setyawan (2025), Organizational culture significantly enhances employee performance, satisfaction, and confidence in problem-solving, making it a vital element in strengthening GHRM. The organization's long-term success and resilience are supported by this cultural foundation, which increases individual and collective performance and reinforces environmental responsibility and sustainable business practices (Ali et al., 2024). Effective GHRM motivates employees to make environmentally conscious decisions that support long-term success.

GHRM enhances employee skills and innovation while leadership ensures incentives align with environmental goals by strengthening sustainability, competitiveness, and business longevity (Ojokuku et al., 2025). Despite these theoretical advancements, the mediating roles of green innovation and organizational culture in the relationship between GHRM and sustainable performance remain underexplored. A study by Martínez-Falcó et al. (2024) explores the link between GHRM and sustainable development over the long run. Based on this study's findings, corporate culture has not been adequately studied as a potential moderator of this relationship.

Khatter (2023) states that, to deploy GHRM practices over time successfully, it is important to analyze how organizational culture mediates this process. The purpose of this finding is to examine how green innovation and organizational culture mediate the relationship between GHRM and sustainable performance. Considering the above, this study must be conducted to fill current theoretical and empirical gaps and to contribute practically to the creation of environmentally friendly human resource management plans within the hotel industry, particularly in key locations such as Batam. The interplay between GHRM, green innovation, and company culture as it relates to sustainable performance is another area that this study aims to shed light on.

H1: Green human resource management may have a positive and substantial influence on sustainable performance.

H2: Green human resource management may have a positive and substantial influence on green innovation.

H3: Green innovation may have a positive and substantial influence on sustainable performance.

H4: Green human resource management may have a positive and substantial influence on organizational culture.

H5: Organizational culture may have a positive and substantial influence on sustainable performance.

H6: Green innovation mediates the relationship between green human resource management and sustainable performance.

H7: Organizational culture mediates the relationship between green human resource management and sustainable performance.

METHODS

This study adopts a causal inference approach to investigate relationships among GHRM, Green Innovation, Organizational Culture, and Sustainable Performance. GHRM serves as the independent variable. The cross-sectional survey design draws on theoretical causal inference. It aligns with prior research on GHRM pathways to sustainability through innovation and culture. Mediation analysis shows relationship directions. However, self-reported data limits strong causal claims. The population includes employees from 3–5-star hotels and resorts in Batam. These venues were chosen for their advanced HR practices and environmental policies. Non-probability purposive and convenience sampling was applied. The online questionnaire (Google Forms) reached respondents via hotel management, networks, and associations. Inclusion criteria covered permanent operational employees. Interns, trainees, and freelancers were excluded. Participation was voluntary with informed consent. The determination of the number of respondents follows the formula from Sarstedt et al., (2021): the minimum is 10 times the number of indicators in the questionnaire. With 29 questions, the minimum number of respondents required is 290. However, to increase the validity and robustness of the data, the number of respondents collected increased to 400. Data collection ran from December 2024 to April 2025. Duplicates were removed through manual checks. Instruments were adapted and reconstructed from established sources. GHRM and Green Innovation drew from Alshuaibi et al., (2024), Organizational Culture items came from Azeem et al., (2021), Sustainable Performance used Khan et al., (2024). English items were translated to Indonesian via forward-back translation. A 5-point Likert scale measured responses ("strongly disagree" to "strongly agree"). A pilot test checked clarity. Scale purification occurred via PLS-SEM metrics (loadings, AVE, CR, Cronbach's alpha). SmartPLS 4 facilitated Partial Least Squares–Structural Equation Modeling (PLS-SEM). This method suits complex models, mediators, large samples, and non-normal data. It tested seven hypotheses: direct GHRM effects on Green Innovation, Organizational Culture, and Sustainable Performance (H1–H5), plus mediation by Green Innovation and Organizational Culture (H6–H7).

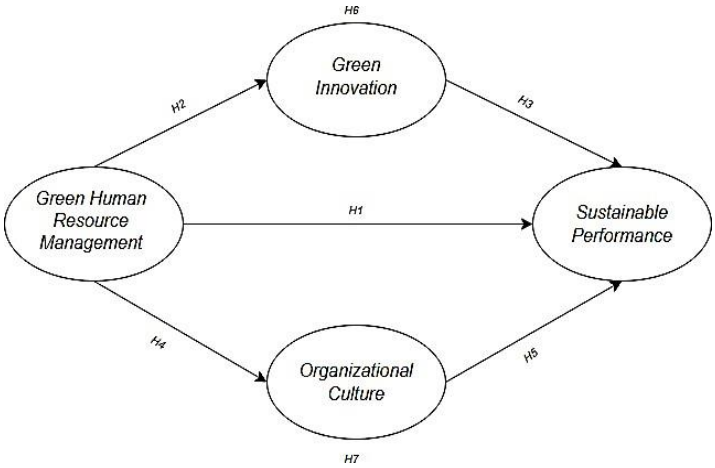

Figure 1. Theoretical Framework
Source: Primary data processed (2025)

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RESULTS AND DISCUSSION

This Results and Discussion section presents empirical findings from Partial Least Squares-Structural Equation Modeling (PLS-SEM) analysis and interprets them within the study's conceptual framework, which emphasizes GHRM as the primary predictor of sustainable performance mediated by green innovation and organizational culture, consistent with recent literature such as Jabbour & Renwick, (2018) and Ali et al., (2024). Results are organized progressively: first, measurement model evaluation through outer loadings, AVE, composite reliability, Cronbach's alpha, and cross-loadings to validate indicators; second, structural model assessment via direct effects testing (path coefficients, T-statistics, P-values) for hypotheses H1-H5; and third, mediation analysis for indirect effects (H6-H7) alongside R-square values to evaluate overall model strength.

Table 1. Respondents by Age (Years)

Description	Total	Percentage
<20	7	1.75%
20-25	92	23%
26–30	112	28%
>30	189	47.25%

Source:Primary data processed(2025)

This study uses primary data collected via online questionnaires, reflecting a modern and efficient approach. A total of 400 respondents were successfully collected from employees in the hospitality sector in Batam, especially from star-rated hotels and resorts. Based on Table 1, respondents over 30 years old accounted for the largest group, with 189 people, followed by the 26-30 years age group with 112 people, the 20-25 years age group with 92 people, and only seven people under 20 years old. This approach ensures the data's timeliness and relevance for the study.

Table 2. Respondents by Position

Description	Total	Percentage
Department Manager	2	0,5%
Supervisor	5	1,25%
Operational(Receptionist, Housekeeping, Waiter)	155	38,75%
Staf Administrasi (Admin HR, Keuangan, Operasional)	124	31%
Technical and Maintenance Staff	5	1,25%
Security Staff (Security Guard, Chief Security)	15	3,75%
Marketing and Sales Staff	63	15,75%
Finance and Accounting Staff (Accountant, Cashier)	26	6,5%
Information Technology Staff (IT Support, System Administrator)	5	1,25%

Source:Primary data processed(2025)

Most of the respondents in this study were operational staff, such as receptionists, housekeepers, and waiters/waitresses, with a total of 155 people. Highlighting their presence underscores their vital contribution to hotel operations, which can foster a sense of appreciation among these respondents and stakeholders.

Table 3. Outer Loading Results

Variable	Average	Description
GHRM1	0,816	Valid
GHRM2	0,822	Valid
GHRM3	0,781	Valid
GHRM4	0,817	Valid

GHRM5	0,795	Valid
GHRM6	0,826	Valid
GI1	0,800	Valid
GI2	0,815	Valid
GI3	0,778	Valid
GI4	0,790	Valid
GI5	0,783	Valid
GI6	0,748	Valid
OC1	0,812	Valid
OC2	0,830	Valid
OC3	0,862	Valid
OC4	0,790	Valid
OC5	0,807	Valid
SP2	0,807	Valid
SP3	0,761	Valid
SP4	0,778	Valid
SP5	0,753	Valid
6	0,782	Valid
SP7	0,762	Valid
SP8	0,810	Valid

Source:Primary data processed(2025)

The outer loadings test was carried out using SmartPLS version 4 application. In general, indicator will be considered valid if it has a minimum outer loadings value of 0.6 (Sarstedt et al., 2021). The results showed that all indicators met the minimum threshold, demonstrating a thorough validation process that should instill confidence in the audience. In the initial testing stage, there were a total of five indicators that did not meet the minimum limit, including: GHRM 7, OC 6, OC 7, OC 8, and SP 1. Therefore, the five indicators are excluded from the model so as not to affect the validity of the analysis results

Table 4. Ave Results

Variable	Average	Description
Green Human Resource Management	0,655	Valid
Green Innovation	0,618	Valid
Organizational Culture	0,674	Valid
Sustainable Performance	0,608	Valid

Source:Primary data processed(2025)

All variables in the model demonstrate convergent validity, as evidenced by AVE values above the 0.50 threshold, which confirms that the indicators converge well on their constructs. An AVE of 0.50 or higher is generally acceptable, indicating low measurement error and reliable representation of the construct. Values slightly below 0.50 may be acceptable if composite reliability is strong (Sarstedt et al., 2021). Based on the results in Table 4, where all variables have Average Variance Extracted (AVE) values above the 0.50 threshold, it is confirmed that all variables meet the criteria for convergent validity. This means each latent construct explains more than 50% of the variance in its indicators, showcasing strong construct validity in the finding model. The 0.50 AVE cutoff is widely accepted in finding to indicate that the construct reliably represents its indicators and that measurement error is relatively low compared to the variance explained. Thus, the finding results are robust and genuine since the indicators accurately represent their respective constructs and the measuring approach utilized in this study is dependable.

Table 5. Composite Reliability and Cronbach's Alpha Result

Variable	Composite Reliability (rho_C)	Cronbach's Alpha	Description
Green Human Resource Management	0,919	0,895	Reliabel
Green Innovation	0,907	0,876	Reliabel
Organizational Culture	0,912	0,879	Reliabel
Sustainable Performance	0,916	0,892	Reliabel

Source:Primary data processed(2025)

According to Sarstedt et al., (2021), in general, a composite reliability (rho_C) of 0.60 or higher is regarded as satisfactory, and a Cronbach's alpha of 0.70 or higher is considered dependable. According to Table 5 of the finding, all variables have Cronbach's alpha values more than 0.70, and the average composite reliability is 0.90. Each concept is very reliable, and the indicators consistently evaluate their hidden variables, as shown by the high composite reliability (CR) and Cronbach's alpha values of the finding. By verifying the internal consistency and stability of the measurement model, these reliability measures demonstrate the instruments' capacity to accurately reflect the constructs, thereby supporting the validity of the measurement model.

Table 6. Cross Loading Results

	Green Human Resource Management	Green Innovation	Organizational Culture	Sustainable Performance
GHRM1	0.815	0.635	0.668	0.647
GHRM2	0.822	0.547	0.601	0.596
GHRM3	0.781	0.541	0.566	0.548
GHRM4	0.817	0.571	0.621	0.610
GHRM5	0.795	0.522	0.593	0.556
GHRM6	0.826	0.531	0.589	0.562
GI1	0.575	0.799	0.639	0.634
GI2	0.587	0.816	0.576	0.577
GI3	0.561	0.778	0.589	0.613
GI4	0.514	0.789	0.583	0.616
GI5	0.527	0.783	0.590	0.604
GI6	0.493	0.749	0.547	0.539
OC1	0.603	0.592	0.812	0.629
OC2	0.600	0.633	0.830	0.652
OC3	0.675	0.652	0.862	0.729
OC4	0.613	0.620	0.790	0.658
OC5	0.585	0.567	0.807	0.622
SP2	0.595	0.631	0.696	0.807
SP3	0.533	0.584	0.638	0.761
SP4	0.522	0.559	0.586	0.778
SP5	0.565	0.575	0.567	0.753
SP6	0.563	0.588	0.625	0.783
SP7	0.579	0.582	0.599	0.762
SP8	0.604	0.628	0.660	0.810

Source:Primary data processed(2025)

According to Sarstedt et al., (2021), the criterion that an indicator exhibits stronger loadings on its designated latent variable than on others is clear and well-established. The table findings confirm this for indicators of GHRM, Green Innovation, Organizational Culture, and Sustainable Performance, reinforcing confidence in the measurement approach.

Table 7. Direct Effects Results

	Sample mean (M)	T statistics (|O/STDEV|)	P values	Results
Green Human Resource Management -> Sustainable Performance	0,191	2,994	0,003	Positive
Green Human Resource Management -> Green Innovation	0,691	14,193	0,000	Positive
Green Innovation -> Sustainable Performance	0,308	4,730	0,000	Positive
Green Human Resource Management -> Organizational Culture	0,750	20,119	0,000	Positive
Organizational Culture -> Sustainable Performance	0,428	6,385	0,000	Positive

Source:Primary data processed(2025)

To assess the nature of the connection between latent variables, including mediation-induced direct and indirect effects, the inner model test was administered. An association is deemed significant when the absolute T-value is more than 1.96 and the P-value is less than 0.05 (Sarstedt et al., 2021).

Green Human Resource Management May Have a Positive And Substantial Influence On Sustainable Performance, Highlighting Its Importance In Advancing Organizational Goals And Inspiring Confidence in GHRM Practices.

Results in hypothesis 1 were significant. This finding is consistent with prior literature that establishes a significant direct relationship between these constructs (Jabbour & Renwick, 2018; Norma et al., 2022). Awwad et al., (2022) confirmed that GHRM practices are instrumental in enhancing sustainable organizational performance by embedding environmental considerations into the core of human resource functions Furthermore, Astuti et al., (2023) have observed that GHRM facilitates the dissemination of environmental management ideologies, thereby empowering employees to contribute effectively to their organization's sustainability objectives and adding economic value. However, a more nuanced understanding reveals that while this direct effect is statistically significant, its magnitude is often relatively weak when compared to the substantial indirect effects transmitted through mediating variables (Fang et al., 2022).

Green Human Resource Management May Have a Positive and Substantial Influence on Green Innovation

The analysis results strongly support hypothesis 2 (Li et al., 2020; Tu et al., 2024). These findings are in line with the finding of Martínez-Falcó et al., (2024) which states that a work environment that promotes sustainable innovation may be successfully created via the use of GHRM techniques, such as training that is based on environmental principles and green incentive systems. A recent finding conducted by Shahbaz et al. (2025) sheds light on the relevance of green recruiting, environmental training, and performance assessment in creating environmentally creative results. Future research could explore how organizational culture or leadership style moderates these relationships, providing deeper insights into contextual factors that influence the effectiveness of GHRM practices in fostering green innovation and sustainability outcomes.

Green Innovation May Have a Positive and Substantial Influence on Sustainable Performance

The third hypothesis's outcomes shown that green innovation, defined as the implementation of environmentally friendly processes and products, greatly aids in enhancing

long-term efficiency. Based on the findings of Li et al., (2023), green process innovation is able to reduce pollution and improve operational efficiency. Concludes that investment in green R&D should be a strategic priority of the company. Further reinforcing this, a recent study by Chang & Wang, (2025) confirms a significant positive impact of green innovation on corporate sustainability performance, highlighting its pivotal role in reducing carbon emissions, lowering energy consumption, and decreasing waste production. Their findings highlight that green innovation boosts environmental performance, meets demand for eco-friendly products, and encourages green purchasing, supporting sustainable development.

Green Human Resource Management May Have a Positive and Substantial Influence on Organizational Culture

The findings indicated favorable correlations among the variables in the finding model (Ali et al., 2024; Rodríguez-González et al., 2023). Verma & Vetrivel, (2025) stated that GHRM can instill an eco-mindset among employees, thereby reinforcing sustainability values in organizational culture. Hadjri et al., (2019) also found that specific GHRM practices, namely Green Recruitment and Selection and Green Compensation, had a significant positive effect on forming a Green Organizational Culture. The convergence of these findings across different studies and contexts underscores the fundamental role of GHRM as a powerful lever for cultural transformation towards sustainability within organizations.

Organizational Culture May Have a Positive and Substantial Influence on Sustainable Performance

The second strongest relationship in this model is consistent with the findings of Adeoye et al., (2023), Organizational culture guides employees' sustainable actions by embedding values that encourage innovation, collaboration, and continuous improvement, promoting engagement and teamwork in green initiatives. This perspective is further reinforced by Fok et al., (2023), who identified organizational culture as a primary component with a substantial, direct influence on sustainability performance, underscoring that a culture supporting environmentally friendly values motivates conscious resource management. Overall, this shows that embedding sustainability into organizational culture is key for long-term success, as ingrained values enhance commitment and drive better sustainable performance (Ali et al., 2024).

Table 8. Indirect Results

	Sample mean (M)	T statistics (|O/STDEV|)	P values	Results
Green Human Resource Management -> Green Innovation -> Sustainable Performance	0,214	4,192	0,000	Positive
Green Human Resource Management -> Organizational Culture -> Sustainable Performance	0,321	6,275	0,000	Positive

Source:Primary data processed(2025)

Green Innovation Mediates the Relationship Between Green Human Resource Management and Sustainable Performance

Green innovation was also found to be a significant mediator, supporting hypothesis 6 (Rehman et al., 2021; Singh et al., 2020). This finding aligns with the study by Marditama et al.,(2024) who emphasize that GHRM cultivates green innovation by developing employees' environmental values and skills through comprehensive training and development programs. Similarly, Awwad et al., (2022) indicate that GHRM facilitates the adoption of new green practices, which in turn enhances sustainable performance across environmental, social, and economic dimensions. In this regard, GHRM acts as a catalyst that translates HR interventions into

innovation-driven sustainability outcomes. Nevertheless, in the hospitality context, the mediating role of green innovation tends to operate in a more gradual manner. Many green innovations depend on financial investment, technological readiness, and managerial discretion, which may differ across hotels (Luo et al., 2021). Consequently, while green innovation plays a meaningful mediating role, its contribution to sustainable performance may be less immediate than mechanisms that directly influence employees' daily behaviors and service practices (Agustin & Basuki, 2025).

Organizational Culture Mediates the Relationship Between Green Human Resource Management and Sustainable Performance

This finding substantiates hypothesis 7 by illustrating that organizational culture serves as a mediator in the link between GHRM and sustainable performance (Ali et al., 2024; Valentina & Setyawan, 2025). Studies conducted by Muisyo & Qin et al. (2021) and others indicate that GHRM positively influences the development of green organizational culture, which subsequently moderates the relationship between GHRM and organizational performance. Aligning HR practices with sustainability-oriented values is therefore essential for optimizing organizational effectiveness and enhancing sustainability outcomes. Similarly, Aggarwal & Agarwala, (2022) emphasized that among the three dimensions of green culture: degree, diffusion, and depth. The degree dimension, reflecting the extent to which managers internalize green values, plays the most significant role. When these values are deeply internalized, they shape employees' attitudes and behaviors beyond formal procedures. This mechanism is particularly salient in the hospitality industry, which is characterized by high levels of employee guest interaction and behavior driven service delivery. In such service intensive settings, a sustainability-oriented organizational culture enables green values promoted through GHRM to be consistently enacted in daily operations, rather than remaining as symbolic or policy level initiatives. As a result, cultural mechanisms exert a more immediate and pervasive influence on sustainable performance than innovation-based pathways, which often depend on longer-term investment and structural change (Järvelä, 2023).

Table 8. R-Square Results

	R-square
Green Innovation	0.480
Organizational Culture	0.565
Sustainable Performance	0.718

Source:Primary data processed(2025)

According to Sarstedt et al., (2021), an R-square value measures the proportion of variance in an endogenous variable explained by the model. Guidelines for interpreting R-square in PLS-SEM follow these thresholds: values of 0.75 or above indicate a strong/substantial model, values around 0.50 represent a moderate model, and values of 0.25 or below denote a weak model. Highlighting these thresholds can help the audience feel assured in assessing model quality. In this study, Green Innovation's R-square value of 0.480 indicates a moderate level of explanation, meaning 48% of its variance is accounted for by the model variables. Organizational Culture's R-square of 0.565 also represents a moderate level, explaining 56.5% of the variance. The Sustainable Performance variable has the highest R-square value at 0.718, approaching a strong/substantial level, meaning 71.8% of its variation is explained by the model. Overall, the model is assessed as moderate to strong in explaining the relationships between the constructs, especially with regard to Sustainable Performance, showing that the model effectively captures the key determinants of sustainability outcomes within the finding context.

CONCLUSION

This study underscores the pivotal role of GHRM in enhancing sustainable performance in the hotel sector, facilitated by organizational culture and green innovation. The findings further indicate that organizational culture serves as a more immediate and influential mechanism than

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green innovation, particularly in the service-intensive hospitality context where employee behaviors and daily operational practices play a central role in sustainability outcomes. GHRM significantly shapes organizational culture by promoting a sustainability-oriented mindset, while green innovation mediates the relationship by encouraging environmentally friendly solutions aligned with organizational objectives.

SUGGESTION

To advance sustainability and maintain competitiveness, hotels are advised to implement green hiring practices, provide training programs that emphasize energy efficiency and waste reduction, incorporate environmental performance indicators into employee evaluations, and establish cross-functional teams to foster innovation and cultural change. However, the effectiveness of green innovation initiatives may vary depending on organizational characteristics such as hotel size, resource availability, and managerial support, suggesting the importance of contextual considerations. Although most respondents were operational-level employees, future studies should include supervisors and managerial staff to capture strategic perspectives and provide a more comprehensive understanding of how GHRM and green innovation influence sustainability outcomes.

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