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Understanding Environmental Performance in Hospitality Industry: Role of Green Human Resource Management, Environmental Strategy, Environmental Legitimacy and Green Innovation

I. Wayan Edi Arsawan
Department of Business Administration,
Politeknik Negeri Bali, Badung, Bali, Indonesia.
E-mail: wayanediarsawan@pnb.ac.id

Yigit Kazancoglu
Department of Logistics Management,
Yasar University, Izmir, Turkey.
Corresponding author: yigit.kazancoglu@yasar.edu.tr

Dwi Suhartanto
Department of Business Administration,
Politeknik Negeri Bandung, Bandung, Indonesia.
E-mail: dwi.suhartanto@polban.ac.id

Viktor Koval
Department of Business and Tourism Management,
Izmail State University of Humanities, Ukraine.
E-mail: viktor.koval@ukr.net

Anthony Brien
Faculty of Agribusiness and Commerce,
Lincoln University, New Zealand.
E-mail: Anthony.Brien@lincoln.ac.nz

Nurul Asyikeen Binti Abdul Jabar
Faculty of Business Management & Professional Studies,
Management and Science University, Malaysia.
E-mail: nurul_asyikeen@msu.edu.my

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Abstract
Literature indicates that environmental performance has received special attention due to the increasing awareness of business managers on its positive impacts on the economy, society and environment. However, few studies have been conducted to examine the drivers of green innovation i.e. green human resource management, environmental strategy, environmental legitimacy towards environmental performance in the context of hospitality industry especially in developing countries. This study aims to examine the relationship between green human resource management, environmental strategy, environmental legitimacy, green innovation, and environmental performance in the hospitality industry both in direct and mediation relationships. Data were collected from hotel and restaurant managers in Bali, Indonesia. Smart-PLS was used to examine the validity and reliability of the proposed structural equation modeling. The findings of the present study revealed that green human resource management significantly influences environmental strategy, legitimacy, green innovation and environmental performance. Furthermore, environmental strategy, legitimacy, and green innovation mediate the relationship between GHRM and environmental performance. This study contributes to theoretical and practical implications and provides valuable suggestions, especially for managers in the hospitality industry for environmental conservation.

Keywords- GHRM, Environmental strategies, Environmental legitimacy, Green innovation, Environmental performance.

1. Introduction

Environmental preservation is a crucial issue that has surfaced in many aspects of life over the past few decades. With the pressing urgency of environmental protection globally, stakeholders are demanding business entities pursue environmental-oriented behavior and outlook (Elshaer et al., 2021; Nassani et al., 2022; Polas et al., 2021). Consequently, most of the industry today aspire to design environmental-friendly procedures (Darvishmotevali & Altinay, 2022; Polas et al., 2023) and organize pro-environmental strategies (Chan et al., 2022; Kraus et al., 2020; Zhang et al., 2019), which then embodied into various routine activities, i.e., green human resource management (Haldorai et al., 2022; Jamal et al., 2021; Zhu et al., 2021), green innovation (Arsawan et al., 2021; Jirakraisiri et al., 2021) and green leadership (Zhang & Ma, 2021) to build environmental performance and elevate organizational values (Abrams et al., 2021; Kalash, 2021; Kraus et al., 2020).

The literature reveals the pivotal role of environmental preservation in diverse industry sectors, such as manufacturing (Rehman et al., 2021; Zhang et al., 2022), SMEs (Arsawan et al., 2024; Geng et al., 2021; Mady et al., 2022), and hospitality sector (Chen, 2019; Hameed et al., 2021; Kim et al., 2019; Pham et al., 2020). However, a critical examination of the literature on the hospitality industry demonstrates that the empirical evidence on environmental research focuses solely on the consumer level. Kang et al. (2012) analyze consumers' desire to stay in green hotels because consumers have environmental awareness that affects their norms and behaviors (Bashir et al., 2019). Subsequently, only severely limited literature provides a guideline regarding internal organizational perspectives on issues, behaviors, and hotel responses to the environment (Arsawan et al., 2023; Kim et al., 2019). Furthermore, the hospitality industry has contributed directly to environmental issues concerning water usage, energy, waste, and environmental preservation (Haldorai et al., 2022). Nevertheless, the literature indicates internal organizational perspectives on issues, behaviors and hotel responses to the environment has yet to be explored (Kim et al., 2019).

Correspondingly, the engrossment toward the environmental preservation can be initiated from GHRM, which remains unexplored in its linkage with environmental performance (Pham et al., 2020), despite its vital role to achieving environmental goals (Haldorai et al., 2022; Kim et al., 2019). Empirical evidence concludes that GHRM facilitates the achievement of pro-environmental business goals (Pham et al., 2020) through the recruitment, selection, training, performance appraisal, reward, and compensation processes (Ahmed et al., 2021; Darvishmotevali & Altinay, 2022; Kim et al., 2019). Moreover, promoting the attainment of environmental performance can be accomplished by considering the formulation of environmental strategies and green innovation practices, which are perceived as critical drivers in shaping organizational performance (Qiu et al., 2020) and sustainable competitiveness (Barforoush et al., 2021). Nevertheless, researchers have not devoted adequate attention to green innovation to appraise environmental performance (Arsawan et al., 2023; Kraus et al., 2020).

Accordingly, the realization of environmental management be subject to the organization's ability to devise various environmentally-oriented strategies embodied in various green innovations to advance environmental performance (Rehman et al., 2021). Investigating the mediating role of green organizational behavior (i.e., environmental strategy, environmental legitimacy, and green innovation) that has yet to be explored in previous studies will facilitate a more comprehensive understanding of how the hospitality industry elevate its environmental performance (Pham et al., 2020).

Considering the research gaps and urgencies, this study is conducted in the tourism sector in Indonesia for three principal reasons. First, Indonesia's environmental performance index is 37.8 and ranks 116 out of 180 countries (Yale, 2020), suggesting the urgent need to build a more serious environmental awareness. Second, Indonesia is a renowned tourist destination in the world, and subsequently, it is crucial to preserve the environment to maintain sustainable tourism. Third, to overcome environmental problems, Indonesia designed a sustainable development strategy, including administration, facilitating pro-environmental activities, and reinforcing industry involvement in environmental preservation towards world-class environmental performance (Latan et al., 2018). To the present, an empirical examination of these linkages has yet to be extensive or adequately explored.

2. Theoretical Framework and Hypotheses

2.1 Natural Resource Based View

Hart (1995) proposed the natural resource-based view as an expansion of the resource-based view (Barney, 1991). This theory offers three primary points: environmental-oriented capabilities as a precondition for outstanding lucrativeness, pollution prevention, sustainable development, and product stewardship (Hart, 1995). Therefore, organizations can formulate and implement various environmental-oriented approaches to create productivity and recover their rising raw material costs. Empirical studies show that environmental and specific proactive strategies concentrating on evolving environmental-friendly technologies can enhance organizational performance (Kalash, 2021). The resource-based view considers product stewardship, pollution prevention, and sustainable development as the vital environmental strategy that direct companies to competitive advantage. Pollution prevention indicates the waste and emissions anticipation in the manufacturing process with implications for efficiency (Hart & Dowell, 2011). Product stewardship stresses product design and integrated product advancement (Hart, 1995). Ultimately, sustainable development involves a production setup that "sustains indefinitely into the future" (Hart & Dowell, 2011).

The impacts of NRBV have been examined by Hart & Dowell (2011), who discovered that studies only centralize pollution prevention capabilities. The other two capabilities have yet to be explored in empirical studies. Accordingly, this study will comprehensively examine the role of NRBV in three capabilities. First, GHRM is the baseline for developing an environmental strategy to prevent pollution (Hart & Dowell, 2011). Second, green innovation is an approach to developing environmental-oriented products that ultimately lead to environmental legitimacy (Green et al., 2015). Meanwhile, environmental performance embodies sustainable development (Liu et al., 2018; Sarkis, 2012).

2.2 GHRM, Environmental Strategy, and Environmental Organizational Legitimacy

Green HRM is HRM policies and practices that prevent damage from organizational activities (Yong et al., 2019; Yusoff et al., 2018). GHRM principles are viewed as relevant approaches, methods, policies, and strategies to encourage employees to achieve green behavior (Tang et al., 2018), capable of creating an environmental-friendly work environment, saving resources, and being socially responsible (Rubel et al., 2021). With a focus on policy implementation in procurement, green training is expected to enhance employee perception of the significance of protecting the environment, environmental engagement, and environmental performance (Haldorai et al., 2022). Previous studies reveal that the GHRM approach is pivotal in formulating various environmental strategies to implement pro-environmental-oriented programs, preservation programs, and problem-solving skills regarding environmental issues (Nisar et al., 2021). The present study considers GHRM a critical construct since it is a relatively advanced approach that engages functions, i.e., procurement, training and development, reward and motivation, and evaluation, to create a pro-environmental-oriented work environment (Yong et al., 2019). Furthermore, GHRM has not been investigated extensively (Pham et al., 2020) particular in hospitality industry in emerging economy (Irani et al., 2022). Although the environmental-oriented policies result from recruiting employees with environmental-friendly characters, the organization will gain legitimacy because they have sensitivity and concern for formulating environmental preservation policies (Rubel et al., 2021). Consequently, organizations with a green organizational identity embodying environmental management and protection in their pursuits can effortlessly gain the legitimization of environmental organizations (Koval et al., 2024; Soewarno et al., 2019). Ultimately, legitimacy builds a positive reputation as an organization with social and environmental responsibility (Baah et al., 2021; Martinez et al., 2017). Consequently, these are the formulated hypotheses:

H1. *GHRM significantly affects environmental strategy*.
H2. *GHRM significantly affects environmental organizational legitimacy*.

2.3 GHRM, Green Innovation and Environmental Performance

In the existing literature, the role of GHRM is to provide human resources that possess pro-environmental character through recruitment mechanisms until performance appraisal. The recruitment and selection process allows one to select the most qualified candidates for pro-environmental behavior (Darvishmotevali & Altinay, 2022). These qualifications will promote the pursuit of green innovation during the recruitment process, the selection part becomes the basis for doing green innovation (Nisar et al., 2021). Besides, green training and development, green motivation, and performance foster the ability to do green innovation sustainably (El-Kassar & Singh, 2019; Luu, 2018). On the other hand, environmental performance is perceived to produce positive affirmation for the environment (Pham et al., 2020).

Moreover, environmental management strategies' effectiveness contributes to environmental performance. In this regard, GHRM is an essential dimension in enhancing green performance. For example, environmental training will increase knowledge, skills, and attitudes in identifying environmental issues and decision-making to improve green performance (Jabbour, 2011). Furthermore, aligning behaviors and responsibilities and focusing on environmental goals will enhance environmental performance (Yusoff et al., 2018). Consequently, engagement potentially offers opportunities to apply skills and knowledge in a series of green activities and initiatives (Pattnaik & Sahoo, 2020), which then provide innovative solutions for resource efficiency, waste reduction, and environmental awareness (Polas et al., 2023) and ultimately enhance environmental performance (Khan et al., 2021). Subsequently, these are the formulated hypotheses:

H3. *GHRM significantly affects green innovation*.
H4. *GHRM significantly affects environmental performance*.

2.4 Environmental Strategy, Environmental Organizational Legitimacy and Environmental Performance

Environmental strategy is a set of initiatives to mitigate the effect of organizational operations on the environment by creating policies, processes, and products (Latan et al., 2018). Implementing pro-environmental policies can manifest in energy consumption, sewage management, waste management, and sustainable utilization of green resources (Rodrigues et al., 2020). The series of environmental-oriented strategies formulated become part of the pro-environmental vision and mission of the organization (Ling & Xu, 2021). It impacts organizations' increasingly recognized reputation for saving the environment, directly increasing environmental legitimacy (Soewarno et al., 2019). Subsequently, formulating a pro-environment strategy becomes the starting point for performing green innovation. The strategy that has been formulated is implemented in various activities that lead to green innovation (Qiu et al., 2020). It encourages managers to be sensitive to environmental issues and encourages the organization's ability to formulate environmental strategy (Hart & Dowell, 2011). Therefore, developing a comprehensive and sustainable environmental strategy will promote environmental-friendly behavior, an approach through green innovation that ultimately enhances environmental performance (Abrams et al., 2021). Thus, these are the formulated hypotheses:

H5. *Environmental strategy is significant to environmental legitimacy*.
H6. *Environmental strategy is significant to green innovation*.
H7. *Environmental strategy is significant to environmental performance*.

2.5 Environmental Legitimacy, Green Innovation and Environmental Performance
Referring to the legitimacy theory (Dowling & Pfeffer, 1975), organizations must have congruence between stakeholder norms, values, beliefs, and expectations. This theory highlights the linkage between organizations and society regarding the significance of environmental awareness. Accordingly, organizations must implement green innovation to align with stakeholders' expectations. The existing literature reveals that green innovation is an aspect of innovation regarding green products, processes, and methods (Soewarno et al., 2019), including pursuing energy savings, environmental management, product design, and waste recycling (Koval et al., 2023).

Notably, legitimacy allows organizations to achieve alignment of environmental strategies, activities, and expectations. The present study by Magrizos et al. (2021) demonstrated that the critical function of social legitimacy is related positively to business performance. The stronger an organization's legitimacy from the parties concerned, the more significant the organization gains benefit from accessing the resources (Cuerva et al., 2014; Qiu et al., 2020) and promotion from internal and external parties (Jirakraisiri et al., 2021). Accordingly, organizations can make more excellent green innovations that ultimately enhance environmental performance (Barforoush et al., 2021; Ben Arfi et al., 2018). Hence, these are the proposed hypotheses:

H8. *Environmental legitimacy is significant to green innovation*.
H9. *Environmental legitimacy is significant to environmental performance*.

2.6 Green Innovation and Environmental Performance
Previous studies found a linkage positively between green innovation and business performance (Kraus et al., 2020; Rehman et al., 2021). Considering that green innovation changes work methods and processes, it can mitigate the adverse effects on the environment (Qiu et al., 2020). Moreover, green innovation explores creating new products that lead to environmental recovery (Arsawan et al., 2021). Green innovation implemented on an ongoing basis can change how an organization perceives itself and thus is committed to environmental preservation (Latan et al., 2018; Singh et al., 2022). Ultimately, by engaging in all environmental-friendly processes and methods, organizations can improve environmental performance toward competitive advantage (Tu & Wu, 2021). Therefore, this is the formulated hypothesis:

H10. *Green innovation significantly affects environmental performance*.

2.7 The Mediating Role of Environmental Strategy
Organizations must establish integrative communication patterns to communicate the strategic role of GHRM in increasing environmental awareness (Darvishmotevali & Altinay, 2022). Management behavior represents the company's visions and values to communicate these aspects to employees regarding the organization's environmental orientation (Ling & Xu, 2021). Green HRM is responsible for enacting policies that focus on preventing the damages incurred from organizational activities (Yong et al., 2019; Yusoff et al., 2018) and motivating employees to engage in green behaviors (Tang et al., 2018), enabling

an environment-friendly, resource-saving and socially responsible workplace (Rubel et al., 2021). Further, the GHRM approach is pivotal in formulating multiple environmental strategies (Arsawan et al., 2023; Chan et al., 2022) to enforce pro-environment-oriented programs, preservation agendas, and problem-solving capabilities regarding environmental issues (Nisar et al., 2021). Subsequently, the pro-environmental strategy formulation has been implemented sustainably in various green activities (Qiu et al., 2020) that forces managers to be more attuned to environmental issues and promotes the organization's ability to formulate relevant environmental strategies (Hart & Dowell, 2011). Accordingly, developing a comprehensive and sustainable environmental strategy will foster environmentally friendly behavior, ultimately enhancing environmental performance (Abrams et al., 2021). Thus, this is the formulated hypothesis.

H11. *The linkage between GHRM and environmental performance is mediated by environmental strategy*.

2.8 The Mediating Role of Environmental Legitimacy

Although the GHRM concept is relatively new in the environmental performance context (Pham et al., 2020), the significance of GHRM is to create human resources sufficient to formulate environmentally oriented policies (Darvishmotevali & Altinay, 2022) through recruiting employees who have environmentally friendly characters is still debated (Obeidat et al., 2023). The positive impact is that the organization will be legitimized for having awareness and concern for the policy formulation to preserve the environment (Rubel et al., 2021). Therefore, organizations with a green organizational identity, implementing environmental management and preservation in all aspects of their activities, will gain the legitimacy of environmental organizations (Soewarno et al., 2019). Accordingly, legitimacy is the foundation for establishing a positive reputation as an organization that is socially and environmentally responsible (Baah et al., 2021; Martinez et al., 2017).

Notably, legitimacy facilitates the organization to align environmental strategies, activities, and expectations. Prior study by Magrizos et al. (2021) discusses the pivotal role of social legitimacy positively related to business performance. The greater legitimacy an organization possesses from stakeholders, the greater the organization would benefit from access to resources (Cuerva et al., 2014; Qiu et al., 2020) and support from internal and external stakeholders (Jirakraisiri et al., 2021), making the organization capable of enacting a series of policies that eventually enhance environmental performance (Barforoush et al., 2021; Ben Arfi et al., 2018). Consequently, this is the formulated hypothesis.

H12. *The linkage between GHRM and environmental performance is mediated by organizational environmental legitimacy*.

2.9 The Mediating Role of Green Innovation

The existing literature describes that GHRM aims to equip human resources with a pro-environmental behavior starting from recruitment to performance appraisal (Irani et al., 2022). It is initiated by the recruitment and selection process that offers the opportunity to select the most qualified candidates for pro-environmental behavior (Darvishmotevali & Altinay, 2022). The proper qualifications drive the efforts to implement green innovation as the selection process assesses how the prospective employee candidates implement green innovation in their routine activities (Obeidat et al., 2023). Besides, green training and development, along with green motivation and performance, will foster the ability to innovate sustainably (El-Kassar & Singh, 2019; Luu, 2018).

Moreover, previous studies have identified a positive linkage between green innovation and environmental performance (Kraus et al., 2020; Rehman et al., 2021) however, in the context of hospitality in emerging countries underdeveloped (Arsawan et al., 2023). Considering that green innovation modifies work methods and processes, it can mitigate the negative impact on the environment. Moreover, green innovation explores the invention of new products that lead to environmental recovery (Arsawan et al., 2021). Green innovation performed continuously can fundamentally transform how an organization views itself and thus becomes committed to environmental preservation (Arsawan et al., 2024; Latan et al., 2018). By incorporating eco-friendly processes and methods, the organization can elevate its environmental performance, leading to a competitive advantage (Tu & Wu, 2021). Accordingly, this is the formulated hypothesis.

H13. *The linkage between GHRM and environmental performance is mediated by green innovation*.

2.10 Serial Mediating Mechanism
As environmental performance encompasses the formulation of overarching strategies and policies entailing all organization components, the hospitality industry must deploy holistic mechanisms to engage employees through various mechanisms, processes, and levels - while simultaneously communicating messages to achieve a common goal consistently. GHRM produces environmentally-oriented human resources that will lead to the formulation of pro-environmental policies. With the presence of the GHRM context, managers will formulate pro-environmental strategies and stimulate organizational environmental legitimacy toward the preservation of the environment by promoting the implementation of green innovation. Hence, the formulated hypothesized is that environmental strategy, environmental legitimacy, and green innovation respectively mediate the linkage between GHRM and environmental performance:

H14. *The linkage between GHRM and environmental performance is serially mediated by environmental strategy, environmental legitimacy, and green innovation*.

Consequently, a structural equation model examines the linkage between GHRM, environmental strategy, environmental legitimacy, green innovation, and environmental performance. The theoretical framework is illustrated in **Figure 1**.

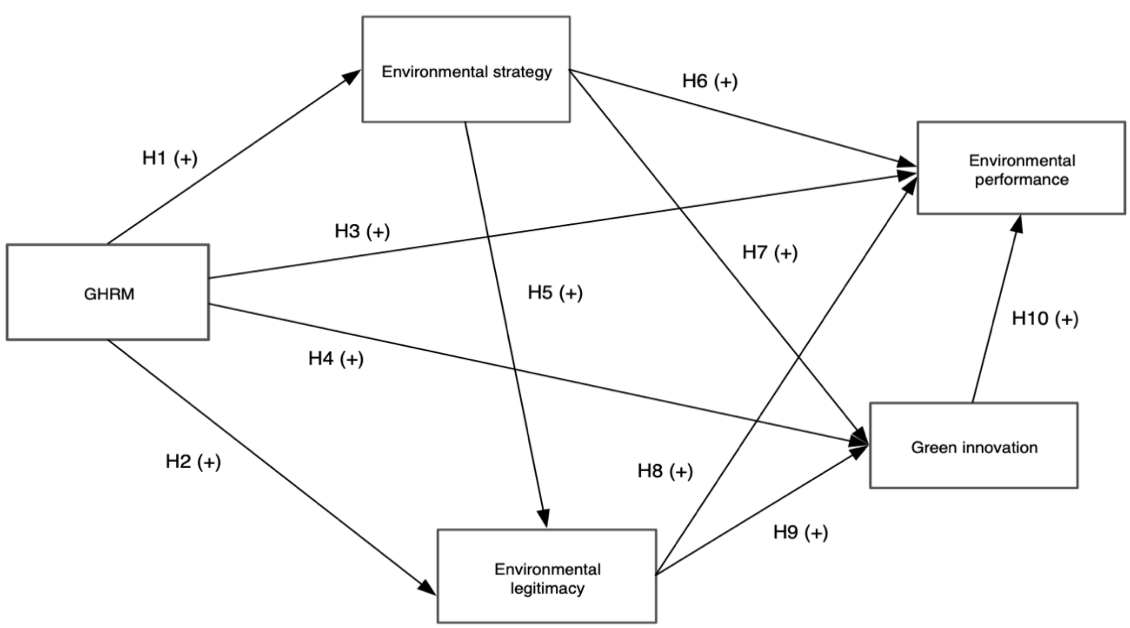

Figure 1. Environmental performance model.

3. Methodology

3.1 Sampling Procedure

This study utilized the hospitality industry, i.e., hotels and restaurants in nine regencies in Bali Province, Indonesia, with three primary considerations. First, Bali was a renowned world tourist destination (Subawa et al., 2021), with tourist arrivals reaching 5.7 million before the pandemic and increasing gradually after the pandemic. It indicated that the potential for increasing tourist arrivals was an essential urgency of this study. Second, Bali had a total of 359 hotels (5-star (78 unit), 4-star (134 unit), 3-star, (147 unit), and 469 restaurants that absorbed labor and contributed as the primary support of the economy. Thirdly, environmental issues were crucial with the existing hospitality infrastructure, considering that this sector utilized natural resources and the environment sustainably.

The population in this study were hotels and restaurants with certified environmental management system SNI-ISO 14001: 2015 and quality management system SNI-ISO 9001: 2015, which totals 265 units as aspects of quality management, not only technical or economic aspects in the environmental context. From a total population of 828, there were 265 eligible units. From the sample frame, we distributed 3 questionnaires, each resulting in 795 responses. The target respondent consisted of three levels of the management directly responsible for designing and implementing green policies and full-time employees with the following three qualifications. First, they engaged in implementing green practices. Second, they possessed knowledge of their organization's environmental performance. Third, they had at least one year of work experience. Accordingly, they were knowledgeable about the green practices adopted and the organization's environmental performance. After contacting HRD, they gave us the opportunity to distribute questionnaires to respondents designated according to the parameters. Of the total 795 questionnaires distributed, all were filled out completely (respond rate 100%) for further analysis. To investigate the model and examine the proposed linkages, we designed an online survey developed with the help of two experienced professors in tourism and sustainability research. We also engaged three practitioners participating in implementing green practices to check and strengthen the scale's validity. A modified survey was completed and then utilized to investigate the linkages in the model. It was designed to prevent the participants from withdrawing when finalizing the survey. It prevented the participants from editing the answers that had been initialized. The system also prohibited participants from submitting the survey multiple times. After the preliminary survey was finalized, the system automatically sent a reminder invitation to complete the follow-up survey. This survey was administered in January-March 2024.

3.2 Measurements

The extensive literature was adapted to generate the constructs of the present study. GHRM was adopted from (Haldorai et al., 2022; Jabbour, 2011) with four main dimensions, i.e., green recruitment and selection, green training and development, green performance management and appraisal, and green compensation and reward. Further, environmental organizational legitimacy was measured with 6 indicators (Chang & Chen, 2013; Soewarno et al., 2019), green innovation was measured with 6 indicators (Chen et al., 2006; Polas et al., 2023; Rehman et al., 2021) while environmental strategy was measured with 7 indicators (Banerjee et al., 2003; Kraus et al., 2020). Ultimately, the environmental performance construct was measured with 7 indicators (Ahmed et al., 2021; Haldorai et al., 2022). **Table 1** summarizes the measurement constructs.

In order to examine the offered research model, we applied PLS-SEM with SmartPLS due to its soft distributional assumptions, the predictive-oriented nature, the complex nature of the model (using first and second order) and convenience of model specifications (Hair Jr et al., 2017). In addition, it allowed the simultaneous ability to handle several dependence linkages presented by concepts that were not observable with any statistical efficiency (Chin et al., 2020). Further, utilizing the bootstrap method determined the significance level of loads, path coefficients, and weights (Chin et al., 2020).

Table 1. Measurements.

Construct	Sources
GHRM practices	Haldorai et al. (2022), Jabbour (2011)
Environmental organizational legitimacy	Chang & Chen (2013), Soewarno et al. (2019)
Green innovation	Chen et al. (2006), Polas et al. (2023), Rehman et al. (2021)
Environmental corporate strategy	Banerjee et al. (2003), Kraus et al. (2020)
Environmental performance	Ahmed et al. (2021), Haldorai et al. (2022)

4. Result

4.1 Descriptives

Table 2 depicts the respondents' demographic profiles according to age, varied from 41-50 years old, with more females (43.01%), with the majority having 11-15 years of experience (36.35%), and predominantly held a bachelor's degree (69.18%). Most respondents were from the HR division (25.91%) and represented middle management (36.35%).

Table 2. The respondents' profiles.

Category	Frequency	Percentage
Age		
21-30	162	20.3
31-40	272	34.2
41-50	294	36.9
51-60	67	8.4
Gender		
Male	342	43.01
Female	453	56.99
Experience (years)		
<5	87	10.94
6-10	196	24.65
11-15	289	36.35
16-20	196	19.62
>21 or more	67	8.43
Educational level		
Diploma	156	19.62
Bachelor	550	69.18
Master	84	10.57
Doctoral	5	6.2
Department		
Front Office	93	11.69
Housekeeping	95	12.07
Food and Beverage	74	9.30
Food Production	145	18.23
Marketing & Sales	84	10.56
Human Resources	206	25.91
Engineering	97	12.20
Position		
Lower management	256	32.20
Middle management	289	36.35
Top management	250	31.45

4.2 Outer Model Measurements

Table 3 demonstrates that the indicators loading factor values exceeded 0.6. Then, the CR value exceeded 0.7, and the AVE value exceeded the advised level of 0.5. The square root value of the AVE exceeded the construct correlation value, which demonstrated that the discriminant validity requirements were met. These indicators indicated that the validity requirements and construct reliability were fulfilled (Hair Jr et al., 2017). Furthermore, the VIF values were between 1.778- 3.045 (less than the recommended level of 5), denoting no issues related to common method variance (Hair et al., 2016).

Table 3. Measurement model analysis.

Constructs	**Loading**	**CA**	**CR**	**AVE**
Green human resource practices		0.946	0.952	0.572
Green recruitment and selection		0.884	0.920	0.743
Considering environmental concerns	0.838			
Focuses on environmental insights	0.859			
Rigorous recruiting	0.892			
Well-designed interviews	0.857			
Green training and development		0.885	0.916	0.686
Ecological training for employees	0.801			
Prioritization of environmental training	0.857			
Opportunity to implement green knowledge	0.849			
Continuous environmental training	0.834			
Training is an essential investment	0.800			
Green performance management and appraisal		0.847	0.908	0.766
Environmental goals implemented	0.850			
Assess environmental contributions	0.896			
Career advancement	0.880			
Green compensation and reward		0.853	0.911	0.773
Rewarded for environmental programs	0.853			
Reward for achieved environmental goals	0.898			
Environmental awards	0.886			
Environmental organizational legitimacy		0.899	0.900	0.666
Safe organization	0.823			
Legitimate organization	0.803			
Credible organization	0.829			
Good organization	0.827			
Provide products or services	0.823			
Allowed to continue operating activities	0.788			
Green innovation		0.888	0.888	0.641
Reduce damage to the environment	0.780			
Takes environmental remedial actions	0.806			
Reduce waste and emissions	0.806			
Recycle non-renewable raw materials	0.817			
Reduces the use of traditional fuels	0.827			
Reduce energy consumption	0.765			
Environmental corporate strategy		0.899	0.900	0.622
Environmental strategic planning	0.769			
Reducing the environmental impact	0.794			
Environmental objectives with corporate	0.788			
Developing products and processes	0.818			
Environmental protection	0.815			
Environmental issues	0.777			
Minimize environmental impact	0.759			
Environmental performance		0.909	0.912	0.646
Environmental management reduced waste	0.805			
Preserved water usage	0.813			
Preserved energy usage	0.841			
Lowered purchases of non-renewable	0.787			
Lowered overall costs	0.826			
Improved position in the marketplace	0.789			
Enhance the reputation	0.764			

4.3 Inner Model Measurements

A bootstrap method with 5000 subsamples was utilized to examine the implication of indicators and path coefficients (Chin et al., 2020). The finding revealed that the goodness-of-fit (GoF) had a value of 0.675, indicating that the model's fitness was considered significant. Consequently, this finding revealed that the formulated environmental performance model applies to the tourism sector. Moreover, the examination of the standardized residual root mean square (SRMR) showed a value of 0.063, and normed fit index (NFI) demonstrated a value of 0.065, signifying the model's fitness. Furthermore, an examination of R^2 revealed that GHRM, environmental strategy, environmental organizational legitimacy, and green innovation described 0.299 (29.9%) of the variance in environmental performance. Ultimately, all Q2s had positive values, indicating that the overall variables had good predictive relevance (Chin, 2010).

4.4 Hypotheses Testing

The structural model entailed multiple examinations, i.e., estimating the path coefficients and the significance by operating the bootstrap method. **Table 4**. indicates that GHRM and environmental strategy (β = 0.357, t-value = 7.906), environmental organizational legitimacy (β = 0.303, t-value = 6.528), green innovation (β = 0.216, t-value = 4.280), and environmental performance (β = 0.144, t-value = 3.621) are positively significant. Therefore, H1-H4 are supported. Furthermore, ES and EOL (β = 0.217, t-value = 4.851), GI (β = 0.244 t-value = 5.475), and EP (β = 0.258, t-value = 6.729) are significant; therefore, H5-H7 are supported. The linkage between EOL and GI (β = 0.240, t-value = 5.622) and EP (β = 0.196, t-value = 5.873) are significant; hence, H8-H9 are supported. Further, GI and EP (β = 0.147, t-value = 3.798) is significant; thus, H10 is also supported.

Table 4. Path coefficients.

Hypotheses	Direct effect		Indirect effect		Total effect	
	β	t-value	β	t-value	β	t-value
GHRM → Environmental Strategy (H1)	0.357	7.906	-	-	0.357	7.906
GHRM → Environmental Organizational Legitimacy (H2)	0.303	6.528	0.078	3.793	0.381	8.233
GHRM → Green Innovation (H3)	0.216	4.280	0.087	4.373	0.395	8.177
GHRM → Environmental Performance (H4)	0.144	3.621	0.092	4.892	0.369	7.719
Environmental Strategy → Environmental Organizational Legitimacy (H5)	0.217	4.851	-	-	0.217	4.851
Environmental Strategy → Green Innovation (H6)	0.244	5.475	0.052	3.502	0.296	6.573
Environmental Strategy → Environmental Performance (H7)	0.258	6.729	0.043	3.565	0.344	8.607
Environmental Organizational Legitimacy → Green Innovation (H8)	0.240	5.622	-	-	0.240	5.622
Environmental Organizational Legitimacy → Environmental Performance (H9)	0.196	5.873	0.035	3.236	0.232	6.842
Green Innovation → Environmental Performance (H10)	0.147	3.798	-	-	0.147	3.798

The subsequent step investigated the mediating mechanism after determining the direct linkages between variables. In this study, we examined four mediation paths. In order to verify the mediation effect of the model, non-parametric bootstrap was applied (Hair et al., 2019). Subsequently, the analysis' findings are illustrated in **Table 5**.

Table 5. The hypothesis testing of the indirect influence.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
GHRM -> Environmental Strategy -> Environmental Performance (H11)	0.092	0.092	0.019	4.891	0.000
GHRM -> Environmental Organizational Legitimacy -> Environmental Performance (H12)	0.060	0.059	0.014	4.410	0.000
GHRM -> Green Innovation -> Environmental Performance (H13)	0.032	0.032	0.011	2.776	0.006
GHRM -> Environmental Strategy -> Environmental Organizational Legitimacy -> Green Innovation -> Environmental Performance (H14)	0.003	0.003	0.001	2.304	0.022

This study examined four mediation paths. Thus, we concluded that environmental strategy, environmental legitimacy, and green innovation mediated the linkage between GHRM and environmental performance. First, we concluded that environmental strategy mediates the linkage between GHRM and environmental performance is significant with a p-value <0.05, i.e., 0.000. Thus, hypothesis 11 is accepted. Second, environmental legitimacy mediates the linkage between GHRM and environmental performance is significant with a p-value <0.05, i.e., 0.000. Therefore, hypothesis 12 is supported. Third, green innovation mediates the linkage between GHRM and environmental performance is significant with a p-value <0.05, i.e., 0.006. Hence, hypothesis 13 is supported. Finally, environmental strategy, environmental legitimacy, and green innovation mediate the linkage between GHRM and environmental performance with a p-value <0.05, i.e., 0.022. Consequently, hypothesis 14 is supported. The linkage is presented in **Figure 2**.

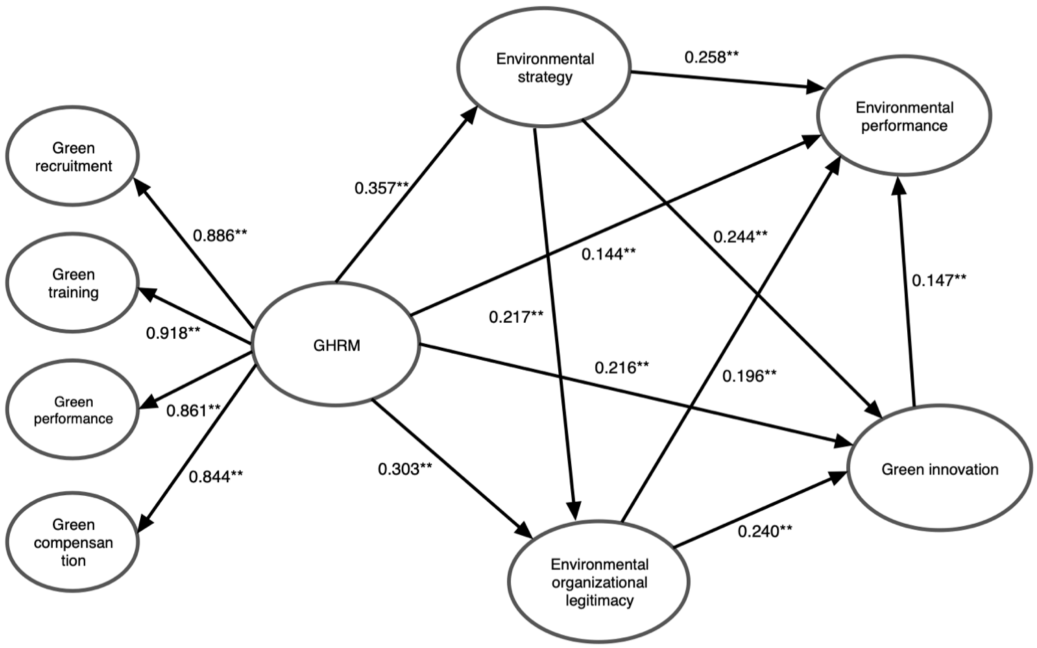

Figure 2. Output analysis.

5. Discussion

Increased environmental awareness transformed the notion of "go green" into the focus of organizations, especially the hospitality industry, which in previous studies was considered to contribute directly to environmental problems related to water, energy, waste (Haldorai et al., 2022), and environmental preservation (Kim et al., 2019). Considering the limited resources, the hospitality industry must be able to use resources efficiently. Consequently, managers must pursue quality resources to facilitate environmental performance (Abrams et al., 2021).

This study showed that GHRM significantly affected environmental strategy, legitimacy, green innovation, and environmental performance. This finding confirmed the critical function of GHRM in formulating various pro-environmental strategic policies (Tang et al., 2018), preservation programs, and problem-solving capabilities (Nisar et al., 2021). Furthermore, GHRM provided the basis for building an organizational identity for environmental management and preservation, consequently gaining environmental legitimacy (Soewarno et al., 2019). The legitimacy led to the organization's positive credibility as an environmentally and socially responsible entity (Baah et al., 2021; Martinez et al., 2017). Concerning green innovation, the role of GHRM complied with Darvishmotevali & Altinay's (2022) finding that GHRM prepared human resources with pro-environmental characteristics through a systematic mechanism from the recruitment process to performance appraisal. Moreover, GHRM was an influential dimension in enhancing green performance through behavioral alignment, responsibility, and a focus on environmental goals (Yusoff et al., 2018). In the hospitality industry, this finding reinforces the previous model (Chen, 2019; Pham et al., 2020) how hospitality is also responsible for environmental preservation by implementing the green innovation model (Arsawan et al., 2023).

Moreover, a notable finding revealed that environmental strategy significantly affected legitimacy and green innovation. The finding strengthened the previous model (Latan et al., 2018) that the environmental strategy reduced organizational operations' environmental impact by creating products, processes, and policies. Further, it impacted the increasingly recognized reputation of organizations committed to saving the environment, directly increasing environmental legitimacy (Soewarno et al., 2019). Furthermore, pro-environmental strategies were implemented in various activities that led to green innovation (Qiu et al., 2020). Besides, green innovation explored the production of the latest products that led to environmental recovery (Arsawan et al., 2021), changed the way the organization views environmental preservation (Latan et al., 2018), and ultimately enhanced environmental performance toward competitive advantage (Tu & Wu, 2021). Thus, the hospitality industry has the opportunity to increase its value as an organization that is concerned about efforts to save the environment (Chen, 2019), and improve environmental value propositions (Al-Hawari et al., 2021).

Subsequently, this study revealed that environmental strategy, environmental legitimacy, and green innovation positively mediated the linkage between GHRM and environmental performance. Although all three mediating relationships examined were generally significant, the highest pathway was GHRM-ES-EP. This finding represented a notable finding that the hospitality industry was committed to formulating pro-environmental policies. The explanation could be the leaders' engagement in preparing pro-environmental human resources expected to deliver pro-environmental policies that ultimately led to consistent environmental performance. The precise GHRM process would produce personas with environmental sensitivity and eco-friendly behavior (Darvishmotevali & Altinay, 2022) and objectively and creatively formulate pro-environmental policies (Al-Hawari et al., 2021). It encouraged increased environmental performance and organizational competitiveness (Muisyo et al., 2022).

In the context of the research, this study was conducted in Bali, Indonesia, which is famous as a major tourist destination in the world. The unique value that can be an inspiration for other regions or countries is the characteristic of its strong social capital (Arsawan et al., 2022) which are the pillars of strength in maintaining environmental sustainability (Aristana et al., 2021). In addition, cultural and social values that contain local wisdom teachings become important guidance on how Balinese people maintain the balance of nature by carrying out environmental conservation activities, educating the community to continue to protect the environment and consider this as a form of responsibility for all generations. Thus, the philosophy of life of the Balinese people is translated into the roadmap of the tourism industry in the form of environmental strategies, environmental legitimacy, green innovation and even environmentally oriented human resources.

5.1 Theoretical Contributions

First, examining the hierarchical order of GHRM in this study offered significant findings. The GHRM hierarchical model employed in this study showed the hierarchical order approach of green training and development, green recruitment and selection, green performance management and appraisal, and green compensation dimensions. Accordingly, the finding of the GHRM hierarchical order examination validated the usefulness of this approach in comprehending the significance of each GHRM dimension (Ahmed et al., 2021). The green training and development was the most critical dimension as the main trigger for building environmental awareness. Green training and development can provide an organizational roadmap for achieving environmental performance. Hence, theoretically, this finding advanced the GHRM literature in the hospitality sector (Farooq et al., 2021; Haldorai et al., 2022; Nisar et al., 2021; Pham et al., 2020; Yusoff et al., 2018). The hierarchical order of GHRM was relevant not only for researchers but also for hospitality business practitioners who demanded a more condensed conceptualization of the complex and intricate GHRM variables.

Second, identifying the most influential determinants of environmental performance was an essential finding. Although GHRM, environmental strategies, legitimacy, and green innovation had significant direct and indirect effects, the finding signified that the overall effect of green innovation was the most significant compared to other factors. This finding confirmed the previous study (Kraus et al., 2020) that underlined the crucial role of green innovation in determining environmental performance. It indicated that enhancing green innovation was critical in generating environmental performance (Arsawan et al., 2021; Huang & Li, 2018; Rehman et al., 2021).

Third, the findings indicated that GHRM was related to environmental performance through a serial mediation model with three mediators, i.e., environmental strategy, environmental legitimacy, and green innovation. This finding was relevant because previous studies showed that environmental strategy, environmental legitimacy, and green innovation were linked and had significant implications for positive organizational outcomes. However, to the best of authors' knowledge, no studies analyzed how the three functioned simultaneously in this linkage. Fourth, this study integrated NRBV (Hart, 1995) and legitimacy theory (Dowling & Pfeffer, 1975) in examining the current model. The natural resource-based view suggested three main points, i.e., environmental-oriented capabilities, product stewardship, sustainable development, and pollution prevention, as evidenced by conducting GHRM, environmental strategy, and green innovation. Meanwhile, legitimacy theory was achieved by implementing environmental legitimacy, thus, facilitating the organization to achieve alignment of environmental strategies, activities, and expectations.

5.2 Managerial Implications

The present study proposes three insightful implications. First, hotel managers can enhance employee engagement in green activities by periodically providing green training and development. It would enable employees to comprehend policies, raise awareness and gain pride in being part of an organization concerned about environmental preservation. Consequently, implementing ecological training practices as a priority is expected to increase the implementation of green knowledge, which will become an essential investment in the future. By holding green training and development periodically, it will enable employees to refresh their knowledge and attitude about the importance of green innovation behavior in their routine activities. Second, managers can serve these stimuli to enhance employees' motivation to implement green culture into their routine activities. These programs can serve as a stimulus to examine employees' consistency in environmental preservation. For example, giving rewards to employees with green behavior, conducting compliance evaluations of green behavior procedures and including environmentally oriented performance assessments. This will simultaneously increase employee awareness to continuously campaign for environmentally friendly behavior.

Third, hotels and restaurants can design, build and promote environmental-friendly oriented products through green menus. Besides providing variations in products and services, new green menus can be a unique business line while helping the farming community provide quality raw materials and maintain viability (Suhartanto et al., 2024). As customer awareness of pro-environmental hotels and restaurants increases, legitimacy and reputation grow.

5.3 Conclusion
Three main conclusions can be drawn from this study. First, the green innovation model for environmental performance is suitable for application in the hospitality industry. This suitability provides a more comprehensive understanding that building environmental performance is by building a strong foundation starting from the procurement process so that it can design strategy, legitimacy and environmentally oriented innovation. Second, environmental strategy, environmental legitimacy, and green innovation act as a serial mediation of the relationship between green human resource management and environmental performance. Third, this study integrates NRBV and legitimacy theory to explain GHRM, environmental strategy, and green innovation that can be integrated by implementing environmental legitimacy, making it easier for organizations to achieve alignment of strategy, activities, and environmental expectations.

5.4 Limitations and Further Study
The business landscape is ever-changing and evolving following resource availability, massive technological developments, environmental concerns, and competition with other companies. Despite the theoretical and managerial significance, limitations urgently need to be considered for future research. First, the study was conducted in a specific geographical area, i.e., the hospitality industry, specifically hotels and restaurants in Bali, Indonesia. Consequently, the findings do not apply to other industries or cultural settings. Accordingly, the generalization of the findings required appropriate conduct. In order to confirm the formulated model, examining it in other industries, such as SMEs, automobiles, or high-tech industries in other countries, is highly encouraged in the future. Secondly, the present study only embodied environmental performance as an organizational outcome. Subsequently, there is an opportunity to investigate the triple bottom line of sustainability, i.e., economic, social, and environmental performance. Third, considering that hotels and restaurants contribute to environmental preservation, future research can anticipate food waste management and technology adoption to anticipate these issues. Finally, the study survey involved hotel and restaurant managers, which could present response or social desirability bias, where respondents may exaggerate their environmental practices to appear more sustainable. Therefore, future studies are recommended to conduct longitudinal studies, gaining generalizability of the findings.

Conflict of Interest
The authors confirm that there is no conflict of interest to declare for this publication.

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