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GREEN HRM AND GREEN COMPETITIVE ADVANTAGE IN HOTEL AND TOURISM INDUSTRY: A MEDIATED MODERATION MODEL USING ECO-INNOVATION AND GREEN PSYCHOLOGICAL CLIMATE

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Abstract: This study investigates the impact of green HRM (GHRM) on green competitive advantage (GCA), examining the mediating role of eco-innovation and the moderating role of green psychological climate (GPC). The study surveyed 472 full-time employees in five-star hotels and travel agencies, developing and testing a five-hypothesis research model using PLS-SEM. Results revealed that GHRM positively impacts GCA and eco-innovation. Eco-innovation positively impacts GCA. In addition, GPC has a positive moderating influence on the relationship between GHRM and eco-innovation. Furthermore, Eco-innovation significantly mediates the relationship between GHRM and GCA.

Key words: Green HRM, Green competitive advantage, Eco-innovation, Green psychological climate, Hotel and Tourism Industry

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INTRODUCTION

Organizations are increasingly promoting environmentally conscious practices, including the tourism and hospitality sector (Thai and Nguyen, 2022; Alos-Simo et al., 2023; Habobati et al., 2023). Rapid development has led to increased emphasis on environmental sustainability by businesses (Obeng et al., 2023). Global environmental sustainability is a pressing global issue, requiring companies to transition to green practices in their core businesses (Kalyar et al., 2019; Shuhua and Kanokporn, 2023; Velwin et al., 2024). Hospitality and tourism organizations are increasingly recognizing the strategic benefits of incorporating green concerns into their operations to gain a green competitive advantage. Businesses are considering their impact on the environment, promoting green human resource management (GHRM) as a strategy to maintain reputation and achieve environmental goals, improving environmental performance, and achieving a green competitive advantage (Singh and El-Kassar, 2019; Obeng et al., 2023). GHRM is a crucial aspect of green management that promotes pro-environment employee behaviors in the workplace (Dumont et al., 2017; Hameed et al., 2020). GHRM is an HRM approach that promotes environmental sustainability and performance, fostering employees who are conscious of the organization's sustainability (Álvarez et al., 2018).

In addition, Eco-innovation is gaining attention as a solution to mitigate environmental pressures and enhance competitiveness for companies (Bossle et al., 2016), particularly in tourism and hospitality businesses (Kuo et al., 2022; Alos-Simo et al., 2023). Eco-innovation involves developing novel business models, products, processes, managerial practices, corporate structures, and marketing strategies to reduce environmental impacts (Maçaneiro et al., 2013), extending beyond green technologies to the entire innovation cycle (Carrillo-Hermosilla et al., 2010). Eco-innovation

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research focuses on drivers and adoption outcomes, enhancing understanding of eco-innovation (de Jesus Pacheco et al., 2018; Zhang and Walton, 2017). Organizations must investigate how GHRM impacts employees' pro-environment behavior to ensure environmental sustainability and improve overall performance (Kim et al., 2019), particularly, Eco-innovation behavior. Furthermore, the current study explores the green psychological climate, focusing on employees' perceptions and interpretations of their organization's environmental sustainability policies and practices (Norton et al., 2017), as a driver affecting GHRM and Eco-innovation relationship. Most firms are revising their business strategies toward the green agenda (Baah et al., 2020; Thai and Nguyen, 2022; ALSUBAIHI et al., 2023), with HR incorporating green management to enhance key functions (Masri and Jaaron, 2017). GHRM, a green management approach, is still in its early stages (Jain and Lima, 2018; Muisyo et al., 2022b), with some firms implementing green practices and others using it to promote corporate pro-environmental management. Scholars have researched how GHRM enhances green performance, but have not expanded it to green competitiveness (Arda et al., 2019; Roscoe et al., 2019; Muisyo et al., 2022b).

Furthermore, the adoption of eco-innovation practices remains underexplored in literature. Studies suggest further investigation into critical drivers affecting eco-innovation (Hojnik and Ruzzier, 2016a), particularly in emerging economies (Maldonado-Guzmán and Garza-Reyes, 2020) like Egypt (Mady et al., 2022). Therefore, the current study aims to examine the effect of green HRM on green competitive advantage in the Hotel and Tourism Industry in Egypt. It also attempts to explore the mediating effect of Eco-innovation on the relationship between green HRM and green competitive advantage, and the moderating effect of green psychological climate on the relationship between green HRM and Eco-innovation.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Green HRM and green competitive advantage

Management plays a crucial role in promoting the company's environmental policy by recruiting and training employees with congruent beliefs and values (Renwick et al., 2013). Employers can attract and select job seekers committed to green issues, while green training provides staff with the necessary skills and attitudes to achieve organizational environmental goals. Green knowledge is disseminated during training, enhancing employees' ability to recognize and participate in green issues (Daily et al., 2012). Training on green targets raises employees' awareness and concern for the environment. Such HRM activities positively influence a firm's competitive advantage (Muisyo et al., 2022a). Green competitive advantage refers to a firm's capacity to consistently achieve an economic value in green products, services, and processes that surpass its competitors (Barney and Hesterly, 2019). A firm's GHRM level indicates its environmental protection behavior, promoting green practices among employees and reducing negative environmental impacts (Oh et al., 2016). Organizations proactive in green issues boost productivity and competitive advantage, while firms lacking a comprehensive framework face hurdles and limitations due to poor green management practices (Saeed et al., 2019; Renwick et al., 2016). Therefore, the following hypothesis is formulated as follows:

H1: Green HRM positively impacts green competitive advantage.

Green HRM and Eco-innovation

Eco-innovation goes beyond reducing environmental degradation by utilizing green technologies, aiming to revitalize the entire innovation cycle (Carrillo-Hermosilla et al., 2010). Firms can improve green performance by incorporating green management solutions into their operations, fostering awareness among employees about environmental issues, and ensuring their support for environmental protection. The adoption of green practices is influenced by both the firm's green strategy and employee support (Renwick et al., 2013). A well-employee-driven green strategy and a good inventory of green skills are crucial for achieving good results (Chou, 2014). An innovative fusion of GHRM is necessary for sustained green initiatives (Jabbour and Jabbour, 2016; Mahmood and Nasir, 2023). GHRM is crucial for implementing green practices and improving an organization's environmental performance (Ren et al., 2018; Obeng et al., 2023). GHRM promotes green values among employees through staffing practices, increasing environmental consciousness and behaviors (Renwick et al., 2013). GHRM enhances employees' knowledge, skills, and abilities, promoting product and process innovation (Seeck and Diehl, 2017). Hiring environmentally conscious employees aids in developing better environmental management ideas and pursuing green goals (Chang and Chen, 2013). Organizational training provides employees with the necessary knowledge and skills for creative innovation (Chowhan, 2016). Green performance management ensures employee commitment to environmental goals, and firms reward environmental efforts by assessing their green innovation capabilities (Curran and Walsworth, 2014). Therefore, the following hypothesis is formulated as follows:

H2: Green HRM positively impacts Eco-innovation.

Moderating role of green psychological climate

Environmental psychologists recognize contextual factors, particularly organizational climate, as crucial in influencing employees' attitudes and behavior toward green behavior (Littleford et al., 2014; Schneider et al., 2013). Organizational climate is a combination of individual employees' perceptions and interpretations of their organization's policies, procedures, and practices, known as psychological climate, which is a more proximal predictor of behavior (James et al., 2008). The current study examines the green psychological climate, which refers to employees' perceptions and interpretations of their organization's environmental sustainability policies and practices (Norton et al., 2017).

The study suggests that the psychological climate is a social and psychological process that green HRM influences employee workplace green behavior (Dumont et al., 2017). Research indicates that a positive green psychological climate positively influences employee green behavior. Employees are motivated to exhibit environmentally friendly behaviors due

to their perceptions of their organization's policies and procedures (Dumont et al., 2016). A green psychological climate formed by GHRM methods inspires green activities and increases awareness about environmental issues (Sabokro et al., 2021). Employees' perception of their organization's environmental policies and procedures, supporting sustainability and green values, triggers their green behaviors "i.e.g. eco-innovation" (Dumont et al., 2017; Norton et al., 2014; Zhou et al., 2018). Therefore, a green psychological climate pushes organizations to promote GHRM practices such as job designs, rewards, and employee awareness of green values. Therefore, the following hypothesis is formulated as follows:

H3: Green psychological climate positively moderates the relationship between green HRM and Eco-innovation.

Green HRM, Eco-innovation, and green competitive advantage

Social identity theory suggests that individuals develop a positive self-concept by classifying themselves into groups and identifying as members of that group, reinforced by positive images and shared perceptions and actions (Tajfel et al., 1979). The current study uses social identity theory to suggest that collaborating with employees who support green initiatives (GHRM) can enhance eco-innovation behavior within work relationships, thereby influencing overall identification and hence, green competitive advantage. Social identification is linked to employee sustainability behavior (Carmeli et al., 2017), and GHRM promotes sustainability behaviors by signaling the organization's commitment to sustainability. This commitment reinforces and directs employee behaviors (Carmeli et al., 2017). GHRM targets green behavior, instilling meaningfulness and involvement, making employees feel part of a positive environmental effort (Rubel et al., 2021), which promotes employees' eco-innovation behavior. Furthermore, green competitive advantage (GCA) is a firm's unique position in environmental management and green innovation, which cannot be replicated by competitors, resulting in sustainable benefits (Muisyo et al., 2022b). GCA, according to the AMO theory, is the climax of business opportunities derived from GHRM and eco-innovation. The Ability-Motivation-Opportunity (AMO) theory proposes that organizational success is best served by a working system that focuses on employee ability, motivation, and opportunity (Jiang et al., 2012). The AMO theory suggests that HRM practices significantly influence employee performance, motivation, and opportunity. It suggests that HRM practices enhance employee capabilities, leading to high performance and green competitiveness. The theory also suggests that HRM practices significantly affect staff's behaviors and attitudes (Jiang et al., 2012). Based on the AMO theory, GHRM significantly affects staff's behaviors and attitudes; it enhances employee capabilities "eco-innovation capability", leading to high performance and green competitiveness "Green competitive advantage". Therefore, the following hypotheses are formulated as follows:

H4: Eco-innovation positively impacts green competitive advantage.

H5: Eco-innovation positively mediates the relationship between green HRM and green competitive advantage.

The conceptual framework of the study is presented in Figure (1) below.

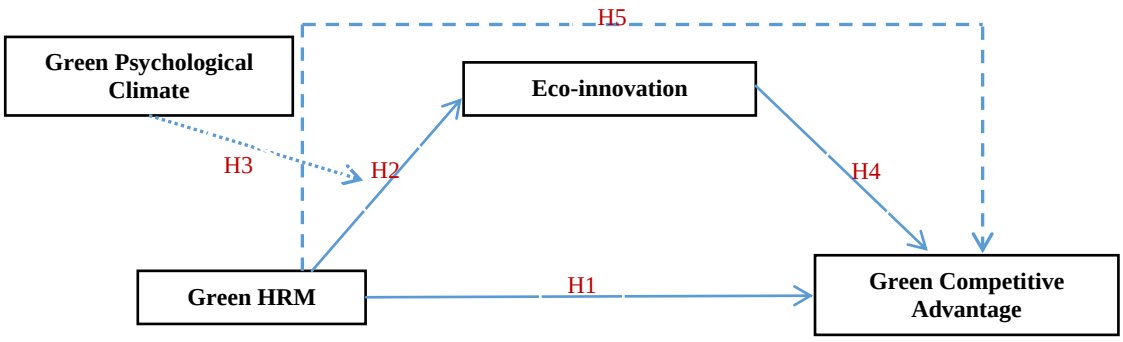

Figure 1. The conceptual framework of the study

METHODOLOGY

Questionnaire design and study measures

This is quantitative research based on survey methodology. A structured survey was utilized to gather the data required to test the proposed model of the study that examines the impact of green human resources management on green competitive advantage, focusing on Eco-innovation as a mediator and green psychological climate as a moderator. The survey comprises two parts: one requesting gender, age, education, and tenure, and the other evaluating the researched variables. Green human resources management (GHRM) was assessed by a 6-item scale developed by Dumont et al. (2017). For example, "My organization sets green goals for its employees" and "My organization provides employees with green training to promote green values". In addition, Eco-innovation was measured by a 6-item scale adapted from Valdez-Juárez and Castillo-Vergara (2020). For instance, "In the last 2 years, your organization has designed products that reduce the use of materials" and "In the last 2 years, your organization has designed products with components for reuse or recycling". Moreover, green competitive advantage was measured by a 4-item scale adopted from Lin and Chen (2017). Sample items include: "The firm has greater capability than competitors regarding green management" and "The firm offers better quality green products in comparison with major competitors". Furthermore, the green psychological climate was evaluated by a 5-item scale suggested by Sabokro et al. (2021). For example, "There is an emphasis on the reduction of scraps during production" and "The organization has announced the general environmental policies at the workplace". A 5-point Likert scale was used to evaluate the investigated variables. Appendix (A) provides comprehensive measurement scales.

Sample and data collection procedures

The study focuses on Egypt's tourism and hospitality businesses, including category-A travel agencies and five-star hotels, which are known for their high-quality services and commitment to environmental preservation, embracing green practices to improve their operations. Five-star hotels and category-A travel agencies are embracing green initiatives to improve their business practices in line with the global need for sustainability. The full-time employees working in category-A travel agencies and five-star hotels in Egypt comprise the study population. The study uses Cochran's (1963) sampling equation to represent a representative sample of 385 replies for large populations, as formal data is unavailable. There were 2222 category (A) travel agencies and 158 five-star hotels in Egypt (The Egyptian Ministry of Tourism reported, 2018). The study utilized the convenience sample method due to limited resources and a large population. 800 questionnaires were distributed to businesses in the Greater Cairo Region of Egypt after obtaining permission to visit and disseminate them on their premises. The acquisition of 472 valid forms resulted in a 59% response rate. 297 (62.92%) worked in 30 five-star hotels, while 175 (37.08%) worked in 55 travel agencies.

Data analysis

The study utilized the PLS-SEM technique, a widely used analytical tool in hospitality and tourism research. The PLS-SEM multi-group analysis was also employed to assess the significant differences in path coefficients between the variables examined. The statistical data analysis was conducted using WarpPLS software 7.0.

RESULTS

Participant's profile

The study involved 472 employees, with 76.69% men, 44.92% aged 35-45, and 68.22% holding a bachelor's degree. In addition, 40.04% of participants worked for two and less than six years, 62.92% worked for five-star hotels, and 37.08% worked for travel agencies.

Table 1. Participant's profile (N=472)

		Frequency	Percent
Gender	Male	362	76.69
	Female	110	23.31
Age	< 35 years	154	32.63
	35 : < 45 years	212	44.92
	≥45	106	22.46
Education	High schools/institute	88	18.64
	Bachelor	322	68.22
	Master/PhD	62	13.14
Tenure with organization	2: <6 years	189	40.04
	6 : <10 years	170	36.02
	≥ 10 years	113	2 .94
Enterprise	Hotels	297	62.92
	Travel agency	175	37.08

Table 2. Item loadings, Cronbach alpha, CR, AVE, and VIFs

Factors	Item loading	Cronbach alpha	CR	AVE	VIFs
Green Human Resources Management (GHRM)	-	0.912	0.884	0.633	3.001
GHRM .1	0.780				
GHRM .2	0.786				
GHRM .3	0.807				
GHRM .4	0.829				
GHRM .5	0.825				
GHRM .6	0.746				
Green Competitive Advantage (GCA)	-	0.895	0.842	0.681	2.076
GCA.1	0.737				
GCA.2	0.900				
GCA.3	0.860				
GCA.4	0.795				
Eco-Innovation (Eco-Inno)	-	0.910	0.881	0.628	1.842
Eco-Inno.1	0.865				
Eco-Inno.2	0.777				
Eco-Inno.3	0.828				
Eco-Inno.4	0.700				
Eco-Inno.5	0.797				
Eco-Inno.6	0.779				
Green Psychological Climate (GPC)	-	0.920	0.892	0.698	2.641
GPC.1	0.849				
GPC.2	0.828				
GPC.3	0.834				
GPC.4	0.856				
GPC.5	0.810				

Analysis and results

Measurement model: The four-factor model of green HRM, sustainable competitive advantage, Eco-innovation, and green psychological climate was tested using confirmatory factor analysis. Kock (2021) suggested ten fit indices to evaluate the quality of the model's fit. The criteria were met as follows: "Average path coefficient (APC)= 0.411, P<0.001; Average R-squared (ARS)= 0.510, P<0.001; Average adjusted R-squared (AARS)= 0.507, P<0.001; Average block VIF (AVIF)= 1.524, acceptable if ≤5, ideally ≤3.3; Average full collinearity VIF (AFVIF)= 2.141, acceptable if ≤5, ideally ≤3.3; Tenenhaus GoF

(GoF)= 0.609, small ≥0.1, medium ≥0.25, large ≥0.36; Sympson's paradox ratio (SPR)=1.000, acceptable if >= 0.7, ideally = 1; R-squared contribution ratio (RSCR)=1.000, acceptable if ≥0.9, ideally=1; Statistical suppression ratio (SSR)=1.000, acceptable if ≥0.7; and Nonlinear bivariate causality direction ratio (NLBCDR)=1.000, acceptable if ≥0.7". Table 2 shows all research constructs have composite reliability ratings above the minimal acceptable level (CR>0.70), validity confirmed by statistically significant loadings (loading>0.50, p<0.05) (Gerbing and Anderson, 1988), and the model is free of common method bias given that all latent variables have a variance inflation factor (VIF) of ≤3.3 (Kock, 2015).

With each variable's AVE value surpassing the maximum common value and a significant correlation across latent variables that is less than unity (Franke and Sarstedt, 2019), Table (3) validates the discriminant validity of the research model. The constructs' validity was further validated by calculating the HTMT, as shown in Table 4.

Multi-Group Analysis: By conducting a multi-group analysis, the study found no significant differences in responses between a five-star hotel and travel agency staff due to changes in work enterprise (Table 5).

Table 3. Discriminant validity results

	GHRM	GCA	Eco-Inno	GPC
Green Human Resources Management (GHRM)	0.796	0.625	0.616	0.752
Green Competitive Advantage (GCA)	0.625	0.825	0.583	0.631
Eco-Innovation (Eco-Inno)	0.616	0.583	0.793	0.577
Green Psychological Climate (GPC)	0.752	0.631	0.577	0.835

Table 4. HTMT for validity

HTMT ratios (good if < 0.90, best if < 0.85)	**GHRM**	**GCA**	**Eco-Inno**	**GPC**
Green Human Resources Management (GHRM)				
Green Competitive Advantage (GCA)	0.730			
Eco-Innovation (Eco-Inno)	0.694	0.683		
Green Psychological Climate (GPC)	0.849	0.731	0.652	
P values (one-tailed) for HTMT ratios (good if < 0.05)	GHRM	GCA	Eco-Inno	GPC
Green Human Resources Management (GHRM)				
Green Competitive Advantage (GCA)	<0.001			
Eco-Innovation (Eco-Inno)	<0.001	<0.001		
Green Psychological Climate (GPC)	<0.001	<0.001	<0.001	

Table 5. Multi-group analysis

Constructs/Hypotheses	Path coeff. (Five-Star Hotel)	Path coef. (Travel Agency)	Absolute path coeff. Diff.	p-values	Tstatistic	Decision
GHRM→GCA	0.465	0.363	0.102	0.133	1.112	Not significant
GHRM→Eco-innovation	0.641	0.749	0.108	0.108	1.238	Not significant
Eco-innovation → GCA	0.333	0.438	0.105	0.128	1.136	Not significant
GPC*GHRM → Eco-innovation	0.172	0.226	0.054	0.284	0.571	Not significant

Results of direct effects

The information presented in Figure 2 shows that green HRM positively impacts green competitive advantage (GCA) (β=0.45, P<0.01) and eco-innovation (β=0.67, P<0.01), with increased GHRM value resulting in increased GCA and eco-innovation, supporting hypothesis H1 and H2. In addition, the green psychological climate has a positive moderating influence on the relationship between GHRM and eco-innovation (β=0.18, P<0.01), suggesting that high GPC levels enhance the relationship between GHRM and eco-innovation, supporting H3. Furthermore, eco-innovation positively impacts GCA (β = 0.35, P<0.01), suggesting that high eco-innovation levels lead to higher GCA, supporting H4. Moreover, the Figure 2 shows that GHRM significantly interpreted 48% of the variance in eco-innovation (R2=0.48). Besides, GHRM, GPC, and eco-innovation significantly interpreted 54% of the variance in GCA (R2=0.54).

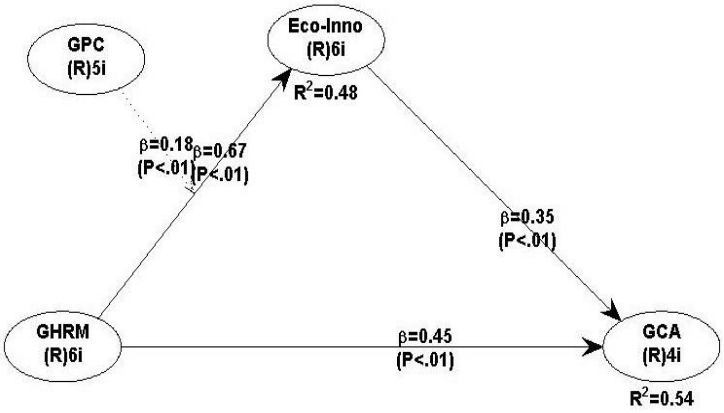

Figure 2. The final model of the study

Table 6. Mediation analysis' Bootstrapped Confidence Interval

	Path aGHRM→ Eco-innovation	Path b Eco-innovation→GCA	Indirect Effect	SE	*t-value*	Bootstrapped Confidence Interval		Decision
						95% LL	95% UL	
GHRM→Eco-innovation→GCA	0.670	0.350	0.235	0.032	7.328	0.172	0.297	Mediation

Mediation Analysis

The study supports the hypothesis (H5) that eco-innovation significantly mediates the relationship between GHRM and GCA, as evidenced by a significant indirect effect and a 95% bootstrapped confidence interval. For mediation analysis, the study adopts the approach developed by Preacher and Hayes (2008). The bootstrapping analysis revealed that the indirect effect β=0.235 (0.670×0.350) was significant (P<0.01) with a t-value of 7.328 (Table 6). The indirect effect of 0.235, "95% bootstrapped confidence interval" (LL=0.172, UL=0.297), does not straddle a zero in between, confirming mediation.

DISCUSSION

The current research aims to investigate the impact of green HRM on green competitive advantage in the Hotel and Tourism Industry. It also seeks to investigate the mediating effect of Eco-innovation on the relationship between green HRM and green competitive advantage, and the moderating effect of green psychological climate on the relationship between green HRM and Eco-innovation. A five-hypothesis model was developed and tested using PLS-SEM.

Findings supported all proposed hypotheses (H1, H2, H3, H4, and H5). Findings revealed that green HRM has a positive impact on green competitive advantage (H1) and eco-innovation (H2). These findings are in line with those of Oh et al. (2016), Renwick et al. (2016), and Saeed et al. (2019) who argued that a firm's GHRM level impacts its green competitive position; and consistent with Obeng et al. (2023) who claimed that GHRM plays a crucial role in enhancing an organization's environmental performance through Eco-innovation. GHRM encourages employees to adopt green values, enhances their knowledge, and promotes innovation. Firms with a strong GHRM level demonstrate environmental protection behavior, boosting productivity and competitive advantage, while those lacking a comprehensive framework face challenges. Findings also revealed that green psychological climate has a positive moderating effect on the relationship between green HRM and Eco-innovation (H3). The study aligns with previous research by Dumont et al. (2017) and Norton et al. (2017), which highlighted the significant role of psychological climate in promoting green HRM and employee green behavior. Psychological climate relies on employees' perception of their work environment and their perception of their organization, particularly in the context of a green climate, which refers to the implementation of pro-environmental policies and practices (Chou, 2014; Paillé et al., 2014).

Employee motivation to adopt green behavior "i.e. Eco-innovation behavior" may be based on expectations, rewards, or the belief that it is acceptable or typical in their workplace (Norton et al., 2014). In addition, the psychological climate is shaped by employee interactions and the values they perceive in the workplace (Kuenzi and Schminke, 2009). Employees perceive and interpret HRM practices, shaping their perceptions of the organization and its values (Kaya et al., 2010; Dumont et al., 2017; Deac et al., 2023). A strong environmental agenda signals core values and ethics, while adopting green HRM practices engages employees in environmentally related decisions and activities (Renwick et al., 2013; Dumont et al., 2017). Lastly, findings revealed that Eco-innovation has a positive impact on green competitive advantage (H4) and has a positive mediating impact on the relationship between green HRM and green competitive advantage (H5).

These findings align with previous research by Carmeli et al. (2017) and Rubel et al. (2021), which argued that GHRM encourages green behavior by fostering meaningful involvement and a positive environmental effort among employees, thus promoting eco-innovation behavior. By incorporating the green concept into operations, firms can achieve GCA when creating unique products, minimizing resource use, and innovating core processes and products that set them apart from their competitors (Sari and Hidayatno, 2017; Nasrollahi et al., 2020). Eco-innovation enhances competitiveness (Mady et al., 2022) by positively impacting market performance, enhancing sales, profitability, and differentiation (Hansen and Klewitz, 2012; Xue et al., 2019), and providing cost advantages for organizations through convertible resources, energy, and waste recycling (de Jesus Pacheco et al., 2018; Yurdakul and Kazan, 2020).

Theoretical implications

The study explores how GHRM influences eco-innovation behavior in hotel and tourism enterprises, influencing their responses to gaining a green competitive advantage through a green psychological climate. The study is the first of its kind that examines this research model in one of the emerging economies, namely, Egypt. In addition, the findings provided additional support to Social Identity Theory (SIT) and the Ability-Motivation-Opportunity (AMO) theory used as a theoretical basis of this study. This study demonstrates that GHRM encourages eco-innovation, enhancing an organization's green competitive advantage. This linkage between employee behavior and organizational expectations strengthens employee identification with the organization. The study reveals that employees can adopt eco-innovation behavior when they perceive a green psychological climate and GHRM as part of the organization's green policies and goals.

Managerial implications

The study provides managerial implications for hotel and tourism firms implementing green human resources management, fostering a green psychological climate, and promoting eco-innovation. The study indicates that GHRM and eco-innovation are valuable strategies for hotel and tourism businesses seeking a green competitive edge. Green-oriented businesses can enhance green performance outcomes by incorporating eco-innovation strategies and aligning environmental concerns with their GHRM and innovation. The research suggests that firms that integrate environmental orientation practices "effective GHRM practices" into eco-innovation gain a green competitive advantage by creating a green psychological climate, enabling better business and environmental solutions. Green-oriented businesses can enhance performance and competitive advantage by developing specific eco-capability and products through the effective interaction of GHRM, green psychological climate, and eco-innovation.

To achieve a green competitive advantage, organizations should involve HR in adopting GHRM strategically and implementing eco-innovation practices at the employee level, enhancing clarity and performance in green behavior. This study provides valuable insights for HR practitioners aiming to recruit, select, and train environmentally conscious employees, serving as a reference for policy-making. The study indicates a strong link between GHRM and GCA, indicating that a company's achievement in GCA is significantly influenced by its recruitment and training of environmentally conscious employees. Consequently, policymakers play a crucial role in assisting companies in implementing green practices like GHRM and nurturing a green psychological and eco-innovation climate, leading to GCA.

Limitations and further research

The research sample includes five-star hotels and category-A travel agencies operating in Egypt. The study's scope is restricted to a single industry "tourism and hospitality industry" in one country "Egypt" causing industrial and cultural limitations, potentially limiting its generalizability. Future research should consider broader contexts and backgrounds. In addition, the current study is limited to eco-innovation as a mediator and green psychological climate as a moderator. Future researchers should integrate green psychological climate with other factors like absorptive capacity for competitive strategies in dynamic business environments, and consider substituting eco-innovation with green dynamic capabilities.

Appendix (A): Measurement Scales

Green Human Resource Management (Dumont et al., 2017)

"GHRM.1. My organization sets green goals for its employees.

GHRM.2. My organization provides employees with green training to promote green values.

GHRM.3. My organization provides employees with green training to develop employees' knowledge and skills required for green management.

GHRM.4. My organization considers employees' workplace green behavior in performance appraisals.

GHRM.5. My organization relates employees' workplace green behaviors to rewards and compensation.

GHRM.6. My organization considers employees' workplace green behaviors in promotion."

Eco-innovation Valdez-Juárez and Castillo-Vergara (2020)

In the last 2 years, your organization has:

"Eco-inno.1. Designed products that reduce the use of materials.

Eco-inno.2. Designed products with components for reuse or recycling.

Eco-inno.3. Designed products to avoid or reduce the use of hazardous materials.

Eco-inno.4. Used production processes that minimize or reduce waste.

Eco-inno.5. Cooperated and linked with sustainable suppliers.

Eco-inno.6. Used processes and technologies focused on energy efficiency."

Green Competitive Advantage Lin and Chen (2017)

"GCA.1. The firm has a low-cost competitive advantage regarding green management in comparison with major competitors.

GCA.2. The firm offers better quality green products in comparison with major competitors.

GCA.3. The firm invests more money in environmental research and development and green innovation than its competitors.

GCA.4. The firm has greater capability than competitors regarding green management."

Green Psychological Climate Sabokro et al. (2021)

"GPC.1. All employees are encouraged to save energy within the workplace.

GPC.2. There is an emphasis on the reduction of scraps during production.

GPC.3. The organization has announced the general environmental policies at the workplace.

GPC.4. Organization management and policies lead to environmental preservation.

GPC.5. Organization managers try to reduce waste and control harmful chemicals."

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