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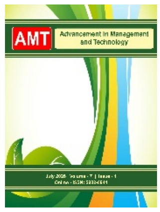

Original Article

Strategic Green HRM and Corporate Performance in GCC Economies: Integrating Behavioural and Institutional Perspectives

Sohail Tariq[1]*, Shahzad Ahmed Khan[2], Asad Javed[3], Fahad Al Otaibi[1], Muhammad Junaid Zafar[3]

[1]School of Business & Management, Lincoln University College, Wisma Lincoln, 47301 Petaling Jaya, Selangor Darul Ehsan, Malaysia
[2]College of Business, University of Buraimi, Al Buraimi, Oman
[3]Department of Business and Economics, University Malaysia Terengganu, 21300 Kuala Terengganu, Terengganu, Malaysia

**Corresponding Author's E-Mail: sohailtariq1990@gmail.com*

Abstract

State-led agendas and mounting institutional pressure are increasingly defining sustainability transitions in Gulf Cooperation Council (GCC) economies, but little is known about the organizational processes that mediate the relationship between human resource practices and performance outcomes. The paper constructs and empirically validates a multi-level model that attributes the relationship between green human resource management (GHRM) practices and corporate performance to the mediating effect of green organizational citizenship behavior (GOCB) and investigates the existence of institutional pressure as a conditioning factor that defines the relationships. Based on a combination of institutional theory, the research claims that GHRM enhances employees' environmental capability, motivation, and opportunities, which in turn leads to discretionary pro-environmental behaviors that improve the firm's performance. With the help of survey data of the companies that are operating in the GCC countries and structural equation modeling, the results prove that GHRM positively influences corporate performance both directly and indirectly via GOCB, proving the significance of behavioral micro-foundations in sustainability performance. Further, the institutional pressure is also observed to enhance the indirect influence of GHRM on performance through GOCB, meaning that external regulatory and normative pressures enhance the efficacy of internally motivated green practice. This study is important to the body of literature by revealing a conditional indirect pathway and providing context-specific information on organizations that work in an emerging and policy-intensive environment.

Keywords: *Corporate Performance; GCC Economies; Green HR Management Practices; Green Organizational Citizenship Behavior; Institutional Pressure*

Introduction

The increasing ecological degradation, climate fluctuations, and strain on resources have heightened the pressure on companies to incorporate environmental responsibility into the core managerial frameworks, especially in areas where the sustainability transition is being carried out on a state basis, such as the GCC. Policy frameworks like national diversification and decarburization agendas have increased regulatory and stakeholder pressures recently, forcing organizations to shift to practices that are environmentally oriented and go beyond symbolic compliance with substantive performance outcomes (Ren *et al.*, 2018; Daily *et al.*, 2009). Green human resource management (GHRM) has become one of the key organizational levers within this shift that integrates employee capabilities and

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motivational factors with environmental goals through implementing sustainability into the recruitment, training, performance appraisal, and reward systems (Jabbour & de Sousa Jabbour, 2016). Although previous studies tend to indicate that there is a positive relationship between GHRM and corporate performance, the mechanisms of behaviors underpinning the conversion of these practices into firm-level outcomes have not been adequately theorized and empirically investigated, especially in emerging and institutionally complex settings (Pham *et al.*, 2019). Based on the Ability-Motivation-Opportunity framework, GHRM practices will result in the development of pro-environmental competencies and employee engagement, but it is the discretionary and voluntary aspect of employee behavior that has been defined as green organizational citizenship behavior (GOCB) that is likely to cause long-term environmental and operational changes (Boiral & Paille, 2012). Simultaneously, the institutional theory implies that organizational behavior is not only internally determined but is heavily predetermined by coercive, normative, and mimetic pressures that determine the adoption and effectiveness of sustainability practices (DiMaggio & Powell, 1983). Such institutional pressures, in the GCC context, where government involvement is extensive, environmental laws are changing, and the societal awareness of green practices is higher, are more likely to not only force the firms to move towards GHRM but also increase the degree to which green practices of employees can affect the performance of corporations.

Despite these theoretical developments, there is a dearth of empirical research that combines micro-level HR processes with macro-level organizational forces that can help bridge this knowledge gap on how the internal and external processes can interactively produce sustainability results. By filling this gap, the current work formulates a multi-level model that analyses GHRM as a performance-driving force using GOCB, with institutional pressure as a contingent factor that moderates these relations, thus making contributions towards the enrichment of the HRM and sustainability literature in understudied institutional contexts. As the world continues to embrace green human resource management practices, there is still little knowledge on how these practices would translate to tangible corporate performance, especially in policy-based settings like the GCC. The current literature is mostly based on direct relationships, which neglects behavioral processes by which employees bring positive environmental and organizational results. Specifically, the mediating role of green organizational citizenship behavior needs more study, and the impact of institutional pressures on the effectiveness of green organizational citizenship behavior is often overlooked. This missing link inhibits a holistic view of the interaction of internal HR practices with outside forces to lead to sustainability performance. Thus, this paper overcomes this shortcoming by investigating the mediating position of employee-initiated green behaviors and the moderating influence of institutional pressure in the interdependence between green HRM and corporate performance.

The research is important because it enhances the current knowledge of the role of green human resource management (GHRM) in corporate performance by identifying the behavioral processes and situational factors that influence this relation. Although previous studies have shown the direct effects, the focus of this study is on the mediating nature of green organizational citizenship behavior (GOCB), which provides a more profound understanding of how voluntary environmental behavior by employees can transform HR practices to performance results (Renwick *et al.*, 2013). Furthermore, incorporating the institutional theory, the research proves the impact of external pressures on the effectiveness of GHRM, especially in the GCC economies, where regulatory and normative forces can greatly influence the organizational sustainability practice (DiMaggio & Powell, 1983). In practice, the results offer advice to managers and policymakers about how to enhance employee engagement in green behaviors and how to match HR systems with the expectations of the institution to improve corporate performance.

Review of Literature

Impact of Green HR Management Practices on Corporate Performance

The green human resource management (GHRM) literature has been inclined toward playing a strategic role in improving corporate performance through the integration of environmental sustainability in mainstream HR processes. The practices involved in GHRM include green recruitment, training, performance management, and reward systems that ensure that the behaviors of the employees are aligned to environmental goals, thus enhancing the capabilities of an organization to survive (Renwick *et al.*, 2013). According to earlier research, GHRM positively contributes to corporate performance by enhancing operational efficiency, reducing environmental costs, improving corporate reputation, and increasing stakeholder legitimacy (Jabbour & de Sousa Jabbour, 2016). GHRM also improves environmental competencies of employees, reinforces their intrinsic and extrinsic motivation, and provides them opportunities to participate in environmentally responsible practices, which collectively increase the performance of organizations (Tang *et al.*, 2018). Empirical studies also indicate that those firms that have implemented GHRM practices are more likely to have better environmental and financial performance as the practices lead to employee involvement in sustainability-oriented behaviors that go beyond official job descriptions (Pham *et al.*, 2019). Additionally, GHRM has been associated with the emergence of green organizational cultures to sustain continuous enhancement and innovation in environmental management systems, thus enhancing long-term competitiveness (Masri & Jaaron, 2017). Nevertheless, the sources also demonstrate discrepancies in the direct GHRM-performance relationship, which may mean that the connection is indirect and depends on the behavioral and contextual factors, including organizational citizenship behavior and institutional pressures. Although there is an increasing academic focus, it is necessary that more integrative frameworks are developed that can explain how GHRM can be converted to corporate performance in various institutional settings, especially in emerging economies where sustainability transitions are still underway. In general, the literature shows that even though GHRM is a key factor in corporate sustainability, the effectiveness of this concept is influenced by intricate behavioral processes and organizational conditions that should be investigated empirically.

H1: *Green HR practices have a positive and significant impact on corporate performance.*

Impact of Green HR Management Practices on Green Organizational Citizenship Behavior

Green human resource management (GHRM) practices and green organizational citizenship behavior (GOCB) have continued to attract growing academic interest as organizations aim to know how formal HR systems are converted to pro-environmental voluntary behaviors of employees. GHRM is understood as a way of aligning environmental goals with HR practices in recruitment, training, performance appraisal, and rewards so that the employees are encouraged to participate in the sustainability efforts (Jackson *et al.*, 2011). Based on the social exchange theory, the GHRM practices provide an indication that the organization is committed to the environmental values, which are reciprocated by employees in their discretionary actions that are not directly related to the job specifications, such as energy saving, waste minimization, and voluntary involvement in green activities (Blau, 1964; Robertson & Barling, 2013). The empirical evidence shows that employees who are subjected to green HR systems that are of strong intensity tend to gain greater environmental consciousness and moral responsibility, which would be reflected in the increase of GOCB (Luu, 2018). GHRM increases the environmental capacity of employees, such as training; improves motivation, such as incentives and performance appraisal systems; and offers engagement opportunities, which, together with voluntary green behavior, are promoted through the prism of the Ability-Motivation-Opportunity framework (Ren *et al.*, 2018). Moreover, psychological processes like perceived organizational support and green organizational climate are also determined to be significant mediators explaining the impact of GHRM on GOCB by determining attitudes and behavioral intentions of employees toward sustainability (Chaudhary, 2020). Nonetheless, the literature also states that the strength of this relationship can be varied in accordance with contextual and institutional variables, which means that GHRM is not enough to be effective unless it is supported by favorable organizational and external climates. Generally, existing studies provide strong support to the positive relationship existing between the GHRM practices and GOCB, and there is also the need to develop more integrative frameworks that can be used to explain the behavioral and contextual processes underlining this relationship.

H2: *Green HR practices have a positive and significant impact on green organizational citizenship behavior.*

Impact of Green Organizational Citizenship Behavior on Corporate Performance

The concept of green organizational citizenship behavior (GOCB) has become a significant construct in sustainability and management literature, as it represents voluntary employee behavior that helps to protect the environment outside of their official job responsibilities. Such behaviors are energy conservation, waste reduction, eco-initiative involvement, and support of organizational sustainability programs, which together increase operational efficiency and environmental performance (Boiral & Paille, 2012). Based on social exchange theory, employees participate in GOCB as a reciprocal reaction to perceived organizational support for environmental values and, in consequence, reinforce organizational commitment and align individual behavior with corporate sustainability objectives (Organ, 1988; Robertson & Barling, 2013). Empirical research shows that GOCB is positively associated with corporate performance in terms of consuming fewer resources, efficient processes, and corporate reputation and trust among stakeholders (Lamm *et al.*, 2013). Strategically, organizations that promote greater degrees of GOCB are more likely to have better environmental performance, which usually results in the ultimate monetary gain of financial savings and a competitive edge. GOCB also helps to establish a robust green organizational culture that encourages ongoing environmental practice innovation and sustains sustainability-focused decision-making at all organizational tiers (Kim *et al.*, 2019). Nonetheless, GOCB does not always bring positive results to corporate performance because it is subject to organizational environments, leadership support, and the existence of formal environmental management systems that allow employees to turn voluntary efforts into quantifiable results. Overall, the literature emphasizes GOCB as a crucial behavioral process linking individual pro-environmental behaviors to overall corporate sustainability and performance, highlighting the need for further research on the contextual conditions that either promote or hinder this relationship.

H3: *Green organizational citizenship behavior has a positive and significant impact on corporate performance.*

Impact of Green Organizational Citizenship Behavior between Green HR Management Practices and Corporate Performance

Green organizational citizenship behavior (GOCB) has increasingly gained prominence as an important mediating variable that can be used to explain how green human resource management (GHRM) practices can be transformed to enhance corporate performance. The GHRM activities such as green recruitment, training, performance appraisal, and reward systems are aimed at developing employee awareness, motivation, and ability to act in ways that promote environmental sustainability, although the overall impact of these activities on the problem depends on the voluntary participation of employees in pro-environmental activities that go beyond the official job requirements (Jackson *et al.*, 2011; Renwick *et al.*, 2013). Based on the social exchange theory, employees are able to pay back organizational investments in environmental management through discretionary practices like energy saving, waste minimization, and active involvement in sustainability programs, which in combination make up GOCB (Blau, 1964). Empirical data points to the fact that GOCB is one of the major behavioral channels in which GHRM practices can affect organizational performance since the voluntary green behavior of employees directly translates into efficiency of operations, cost savings, and better environmental performance (Luu, 2018). Moreover, the Ability-Motivation-Opportunity lens makes GHRM improve the environmental competencies of employees, boost intrinsic and extrinsic motivation, and offer engagement opportunities, thus leading to the development of GOCB that eventually translates into an improvement in the performance of firms (Ren *et al.*, 2018). It is also found that a strong GOCB organization has a better reputation in the corporate world, stakeholder legitimacy, and long-term competitiveness because of the cumulative effect of employee-led environmental efforts (Robertson & Barling, 2013). Nonetheless, the literature also points to the fact that the usefulness of GOCB as a mediating factor might be contingent on the organizational culture, leadership support, and institutional context, meaning that the GHRM itself is not a sufficient tool unless it manages to foster long-term voluntary employee engagement. Altogether, the existing literature identifies GOCB as an essential explanatory variable between GHRM practices and corporate performance with a strong focus on the significance of behavioral processes in corporate sustainability performance.

H4: *Green organizational citizenship behavior positively and significantly mediates between green HR practices and corporate performance.*

Impact of Institutional Pressure between Green Organizational Citizenship Behavior and Corporate Performance

Institutional pressure has become more and more identified as a critical contextual factor that influences the degree to which green organizational citizenship behavior (GOCB) can be converted into the corporate performance results. Based on the institutional theory, coercive, normative, and mimetic pressures force organizations to meet environmental expectations imposed by governments, industry organizations, and other stakeholders in society and, hence, the adoption and performance of sustainability-oriented behavior (Scott, 2008). Although GOCB demonstrates the voluntary participation of employees in pro-environment activities, including resource conservation and eco-initiatives, the effect of these practices on the performance of companies is usually determined by the overall institutional setting that facilitates or limits the transfer of any of the activities to specific quantifiable organizational results (Boiral & Paille, 2012). Institutional pressure may also enhance the observability and organizational responsiveness to employee-initiated green behaviors in highly regulated and sustainability-oriented settings to increase their role in operational efficiency, environmental performance, and reputational benefits. On the other hand, the impact of GOCB on performance might not be harnessed on institutions where institutional enforcement is low because of the absence of structural support and managerial alignment. Empirical research also indicates that institutional pressures not only justify sustainability efforts but also motivate organizations to institutionalize and expand on employee-motivated environmental efforts, thus increasing their strategic influence (Zhu *et al.*, 2012). Besides, in emerging economies and policy-intensive areas like the GCC, high levels of coercive regulatory systems and rising expectations of stakeholders provide an environment in which GOCB is more likely to be integrated into organizational operations and converted into performance gains. Nonetheless, with increased focus on institutional effects, few studies have explicitly investigated the role of institutional pressure in moderating the GOCB-performance relationship, which creates a significant gap in the knowledge of the boundary conditions under which employee environmental behaviors can create organizational value. All in all, the literature reveals that the moderating effect of institutional pressure is critical in determining the effectiveness of GOCB in motivating corporate performance, thus emphasizing the relevance of congruity between the micro-level behaviors and macro-level institutional contexts.

H5: *Institutional pressure positively and significantly moderates between green HR practices and corporate performance.*

Institutional Theory

The institutional theory provides the contribution of green organizational citizenship behavior (GOCB) to the corporate performance by highlighting the importance of coercive, normative and mimetic pressures in influencing the organizational legitimacy and sustainability practices. Organizational settings are institutional environments in which adherence to external demands is vital, and it is these demands that dictate the success in which voluntary employee-based environmental practices are successfully converted into performance results (Scott, 2008). Although GOCB shows discretionary pro-environmental employee behaviors, the effect on corporate performance can be stronger when institutional pressures can support and institutionalize such behaviors in the systems of organizations (Boiral & Paille, 2012). Regulatory coercive pressures, industry normative pressures, and competitive imitation mimetic pressures are all forms of pressure that increase the probability of the implementation of GOCB in strategic practices and, consequently, improve operational and environmental performance. There is also empirical evidence indicating that the higher the institutional setting, the better firms can translate employee green behaviors into practical performance benefits through greater legitimacy, resource support, and management commitment. Altogether, the institutional theory emphasizes that the impact of GOCB on the corporate performance is not predetermined but depends on the intensity of the institutional pressures on the organizational answers.

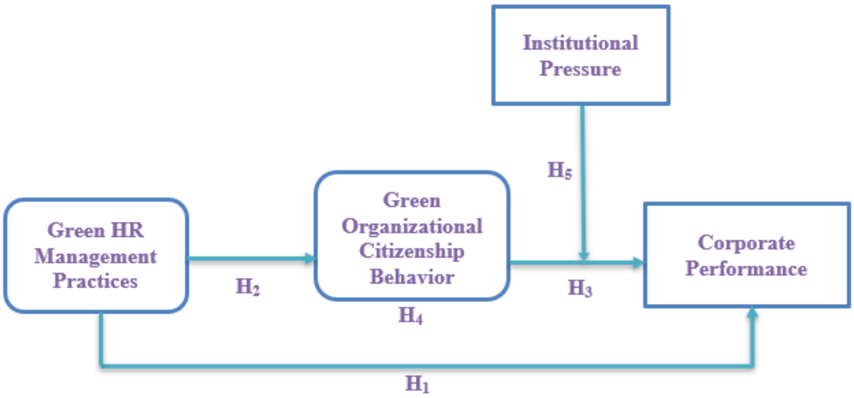


Figure 1: Proposed Conceptual Model

Methodology

The quantitative research design was used to empirically test the relationship that is alleged among the constructs as well as to test the measurement and structural properties of the conceptual model **(Figure 1)**. It was all supported using a variance-based structural equation modeling strategy so as to determine the predictive direction of the model that there is more than one latent construct in addition to the existence of mediating relationships.

Research Design and Approach

In order to obtain primary data on the respondents who are representative of the target population within the contextual framework of the present research, the survey design was that of a cross-sectional survey to get primary data on the respondents. The respondents of the organization level who were well versed in management, engineering and decision-making of construction projects were the unit of analysis. Design of a structured questionnaire was done using the existing scales based on previous empirical studies, and the items were simplified to be sure that the context was considered. All the constructs were operationalized in order to capture the latent variables and were measured by a five-item Likert scale ranging from "strongly disagree" to "strongly agree." Expert review was carried out before the actual data collection to validate the content of the instrument to enable the instrument used to be clear, relevant and conceptualized.

Population and Sampling

The study population were senior managers, domain experts, and top-level operational individuals in manufacturing and in the human resource firms of GCC. These inclusion criteria were done on the basis that the respondents were directly related to production and human resource departments and also were related to the performance appraisal cycles. Primary data was collected by the use of a rigorously constructed sampling framework, which made the methodology sound. The participants were required to possess a minimum of three years of working experience, and they were required to play a major role in decision-making related to sustainability. Finally, there was a rigorous cleaning process for the dataset, whereby based on the completeness, low response bias, and no statistical outliers' criteria, only the data that satisfied these requirements were retained.

Measurement of Variables

The adopted questionnaires were used in the data collection, and all items were measured on a 5-point scale: 1, strongly disagree; 2, disagree; 3, neutral; 4, agree; and 5, strongly agree. The demographic variables are few and found in the questionnaires, which provide data about the respondents. Age, experience, gender and qualifications of the respondent are the demographic variables **(Table 1)**. The 10-item scale adopted by (Renwick *et al.*, 2013; Tang *et al.*, 2018; Dumont *et al.*, 2017; Jabbour & de Sousa Jabbour, 2016) was used to measure the Green HR practices. The institutional pressure is the moderator variable of the given study. It involves a 6-item scale (DiMaggio & Powell (1983); Scott (2008); Delmas and Toffel (2008); Bansal (2005) which describes a number of things with regard to institutional monitoring and control. Green organizational citizenship behavior as a mediator variable in this study. It possesses 6 scale items taken by Boiral and Paille (2012), Lamm *et al.* (2013), Robertson and Barling (2013) and Paille and Boiral (2013), which describe different facets of leadership and organizational behaviors. Organizational performance is the dependent variable in this study. It is a set of 10-item scales where questionnaires were developed by Venkatraman and Ramanujam (1986), Richard *et al.* (2009), Delaney and Huselid (1996), and Zhu *et al.* (2012). A questionnaire was created to examine the performance of the organization and evaluate its results. To ensure confidentiality of the information to be provided by the respondents, it is enclosed in a cover letter that was attached to the questionnaire.

Table 1: Questionnaire Items and Measurement Scales for the Study Variables

Green HR Practices (Renwick et al., 2013; Tang et al., 2018; Dumont et al., 2017; Jabbour & de Sousa Jabbour, 2016)						
1	My organization considers environmental awareness when recruiting employees.	1	2	3	4	5
2	Candidates are evaluated based on their environmental values and attitudes.	1	2	3	4	5
3	My organization provides education on reducing environmental impacts at work.	1	2	3	4	5
4	Training programs encourage eco-friendly workplace behaviors.	1	2	3	4	5
5	Managers assess employees based on their contribution to sustainability goals.	1	2	3	4	5
6	Environmental objectives are part of performance appraisal systems.	1	2	3	4	5
7	Employees are rewarded for environmentally friendly behavior.	1	2	3	4	5
8	Recognition is given for contributions to sustainability initiatives.	1	2	3	4	5
9	Employees are involved in decision-making related to sustainability.	1	2	3	4	5
10	The organization promotes teamwork for environmental projects.	1	2	3	4	5
Green Organizational Citizenship Behavior (Boiral & Paillé, 2012; Lamm et al. (2013); Robertson & Barling (2013); Paillé & Boiral (2013)						
1	I voluntarily suggest ideas to improve environmental performance at work.	1	2	3	4	5
2	My leader encourages team members to commit to organizational goals.	1	2	3	4	5
3	I encourage my colleagues to act in environmentally responsible ways.	1	2	3	4	5
4	I carefully follow environmental procedures even when not monitored.	1	2	3	4	5
5	I remind others to follow environmental rules and guidelines.	1	2	3	4	5
6	I avoid wasting resources even if it is not strictly enforced.	1	2	3	4	5
Institutional Pressure (DiMaggio & Powell (1983); Scott (2008); Zhu et al. (2013); Delmas & Toffel (2008); Bansal (2005)						
1	Government policies force my organization to adopt environmentally friendly practices.	1	2	3	4	5
2	Legal requirements significantly shape our environmental management practices.	1	2	3	4	5
3	Industry standards encourage my organization to adopt green practices.	1	2	3	4	5
4	Customers and stakeholders expect my organization to act in an environmentally responsible way.	1	2	3	4	5
5	Competitive pressure encourages my organization to adopt sustainability initiatives.	1	2	3	4	5
6	Successful firms in our industry influence our environmental strategies.	1	2	3	4	5
Organizational Performance (Venkatraman & Ramanujam (1986); Richard et al. (2009); Delaney & Huselid (1996); Zhu et al. (2012); Paillé & Boiral (2013)						
1	Our organization has achieved strong profitability in recent years.	1	2	3	4	5
2	Our organization performs better financially than competitors.	1	2	3	4	5
3	Waste reduction practices have improved organizational performance.	1	2	3	4	5
4	Energy efficiency in our organization has significantly improved.	1	2	3	4	5
5	Our processes are more efficient due to sustainability initiatives.	1	2	3	4	5
6	Our organization has improved its operational efficiency.	1	2	3	4	5
7	Our organization’s reputation has strengthened in the market.	1	2	3	4	5
8	Our organization has gained competitive advantage in the industry.	1	2	3	4	5

***Note:** 1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree*

Data Collection Procedure

Self-administered questionnaires were used to collect data electronically from the eligible respondents. The participants were not compelled to take part, and to avoid the social desirability bias, the participants were made to believe that they were confidential. The respondents knew that the data that would be obtained would be utilized in purely academic research. Such measures were considered procedural controls that reduce the common method variance, including correct instructions, psychological separation of predictor and criterion variables in the questionnaire, and anonymity. The questionnaire was critically reviewed to ensure that it was conceptually valid and contextual. The convenience sampling technique was applied because the number of people in the population was substantial and the valid responses were 320, and this was used to conduct the analysis.

Results

Measurement Model Assessment

The measurement model was checked prior to taking into consideration the structural relationship to ascertain the reliability and validity as closely as possible. Secondly, composite reliability coefficients were also used to measure internal consistency, and thus it was ensured that the constructs were coherent enough. Measurements of convergent validity were carried out in terms of factor loadings and average variance extracted, and it was determined that the indicators were able to measure the intended constructs **(Table 2)**. All the constructs in the model were empirically justified by the fact that the set standards were achieved, which resulted in the development of discriminant validity **(Tables 3, 4).** The structural relations were examined following the attainment of satisfactory amounts of reliability and validity. This sequential method has ensured that the inferential analyses were based on a firm ground of measurement and hence a higher level of validity of findings has been achieved.

Table 2: Loadings, Composite Reliability and Average Variance Extracted

Construct	Item	Factor loading	Cronbach'sα	(CR)	AVE
Corporate Performance	CP1 CP2 CP3 CP4 CP5 CP6 CP7 CP8	0.746 0.697 0.796 0.769 0.808 0.701 0.752 0.771	0.892	0.914	0.571
Green HR Practices	GHP1 GHP10 GHP2 GHP3 GHP4 GHP5 GHP6 GHP7 GHP8 GHP9	0.658 0.768 0.666 0.685 0.695 0.733 0.749 0.721 0.776 0.768	0.898	0.916	0.523
Green Organizational Citizenship Behavior	GOC1 GOC2 GOC3 GOC4 GOC5 GOC6	0.822 0.826 0.836 0.753 0.835 0.858	0.904	0.926	0.676
Institutional Pressure	IP1 IP2 IP3 IP4 IP5 IP6	0.823 0.860 0.869 0.837 0.803 0.843	0.916	0.935	0.705

Note: *Cronbach's alpha and composite reliability values above 0.70 indicate internal consistency reliability. Average variance extracted (AVE) values above 0.50 indicate adequate convergent validity (Hair et al., 2022).*

Table 3: Discriminant Validity (HTMT Ratio)

HTMT	CP	GHP	GOC	IP
CP				
GHP	0.598			
GOC	0.660	0.450		
IP	0.567	0.565	0.593	

Note: *HTMT values below 0.85 (strict criterion) or 0.90 (liberal criterion) indicate adequate discriminant validity (Henseler et al., 2015).*

Table 4: Discriminant Validity (Fornell - Larcker Criterion)

	CP	GHP	GOC	IP
CP	0.756			
GHP	0.539	0.723		
GOC	0.597	0.413	0.822	
IP	0.518	0.514	0.542	0.839

Note: *Discriminant validity is considered acceptable when the square root of the average variance extracted (AVE) for each construct is greater than its highest correlation with any other construct (Fornell & Larcker, 1981).*

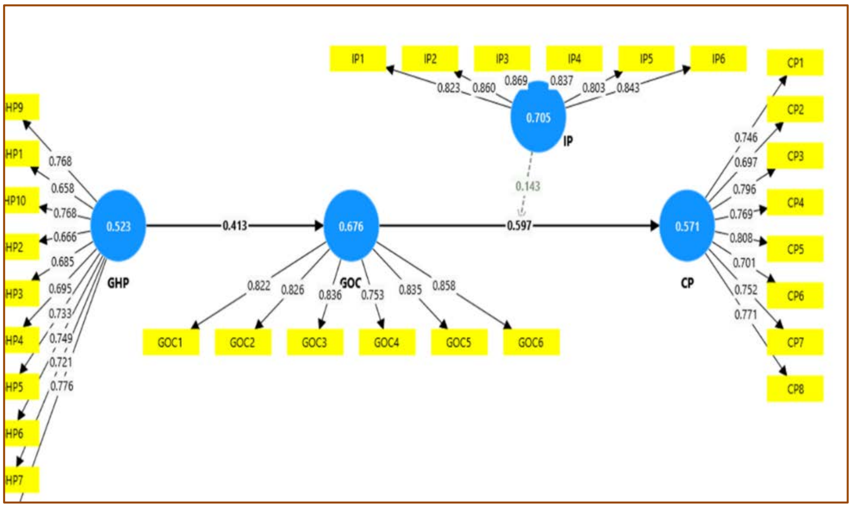
Table 5: Cross Loading

	CP	GHP	GOC	IP
CP1	0.746	0.407	0.478	0.361
CP2	0.697	0.352	0.395	0.260
CP3	0.796	0.425	0.491	0.397
CP4	0.769	0.422	0.489	0.359
CP5	0.808	0.361	0.511	0.375
CP6	0.701	0.380	0.401	0.370
CP7	0.752	0.444	0.403	0.480
CP8	0.771	0.458	0.434	0.498
GHP1	0.413	0.658	0.338	0.313
GHP10	0.385	0.768	0.310	0.434
GHP2	0.341	0.666	0.246	0.326
GHP3	0.351	0.685	0.285	0.379
GHP4	0.353	0.695	0.246	0.325
GHP5	0.407	0.733	0.293	0.373
GHP6	0.439	0.749	0.272	0.419
GHP7	0.395	0.721	0.333	0.391
GHP8	0.366	0.776	0.305	0.386
GHP9	0.428	0.768	0.324	0.361
GOC1	0.532	0.413	0.822	0.490
GOC2	0.472	0.302	0.826	0.396
GOC3	0.466	0.329	0.836	0.408
GOC4	0.416	0.288	0.753	0.452
GOC5	0.526	0.338	0.835	0.461
GOC6	0.518	0.349	0.858	0.459
IP1	0.448	0.435	0.476	0.823
IP2	0.434	0.444	0.450	0.860
IP3	0.418	0.448	0.452	0.869
IP4	0.433	0.454	0.449	0.837
IP5	0.433	0.353	0.403	0.803
IP6	0.442	0.451	0.495	0.843

Note: *Cross-loadings indicate adequate discriminant validity when each indicator loads higher on its associated construct than on all other constructs (Chin, 1998; Hair et al., 2019).*

Structural Model Evaluation

The structural model proves to have a satisfactory level of explanatory power and statistically significant relationships between the constructs **(Figure 2 & 3)**. The impact of green HR practices on green organizational citizenship behavior is highly positive (β = 0.413, p < 0.001), which means that the environmentally oriented HR systems are effective in promoting green voluntary actions among the employees. Green organizational citizenship behavior, in its turn, has a significant positive impact on corporate performance (β = 0.486, p < 0.001), which proves its dominant position in the list of behavioral processes that transform internal practices into actual results. The direct impact of green HR practices on corporate performance is significant (β = 0.189, p < 0.001), but important, indicating a partial mediation. The model accounts for a moderate relationship in the variance in green organizational citizenship behavior (R^2 0.67) and corporate performance (R^2 0.43-0.57), which are acceptable levels of predictability. Moreover, the moderating effect of institutional pressure on the relationship between green organizational citizenship behavior and performance is positive (β = 0.129, p < 0.01), which means that external regulatory and normative pressures enhance the efficacy of employee-initiated environmental behaviors. In general, the findings confirm the presence of a strong conditional indirect effect, which confirms the theory of the model and attests to a sufficient level of structural validity.



Source (Smart-PLS)

Figure 2: Measurement and structural model results with standardized estimates and explained variance (R^2)

Table 6: Structural Model Path Coefficients

Hypothesis	Path	*β*	*t*-value	*p*-value	CI (5%-95%)	Decision
H1	GHP → CP	0.189	4.881	0.000	0.113, 0.251	Supported
H2	GHP → GOC	0.413	8.214	0.000	0.337, 0.501	Supported
H3	GOC → CP	0.486	7.859	0.000	0.380, 0.587	Supported
H4	GHP → GOC → CP	0.201	5.126	0.000	0.143, 0.272	Supported
H5	IP x GOC → CP	0.129	2.696	0.004	0.048, 0.205	Supported

***Note:** Path coefficients **(β)** were tested using bootstrapping with 5,000 subsamples. Paths are significant at **p-value** < 0.05 and **t-value** > 1.65. Confidence Intervals (CI) for path coefficients (β) were computed using bias-corrected bootstrapping with 5,000 subsamples. Paths were considered significant if the 95% CI did not include zero.*

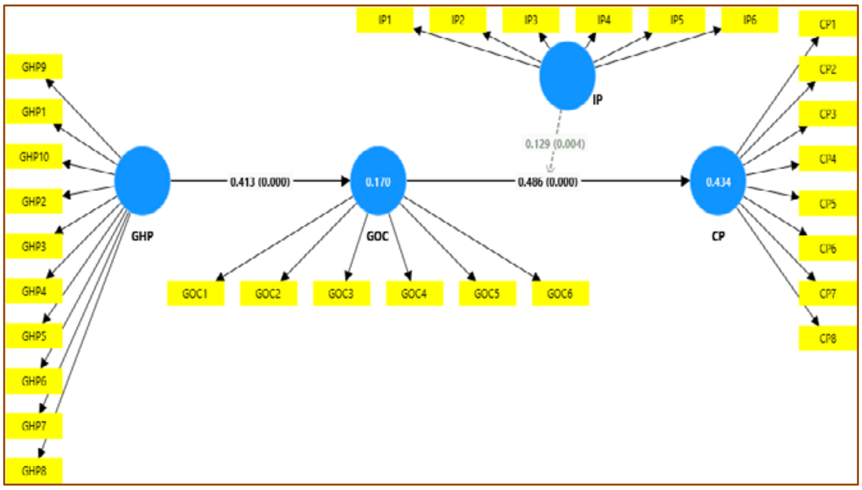


Figure 3: Structural and measurement model results obtained through PLS-SEM, showing standardized path coefficients with associated *p*-values, outer loadings, and R^2 values for endogenous constructs. Source (Smart-PLS)

Discussion

The results present strong evidence that green human resource management practices are a notable predictor of corporate performance, both in a direct and indirect way determined by behavioral processes. The direct impact of green HR practices on corporate performance, though having a positive impact, is quite small, which means that formal systems cannot be applied alone in order to optimize the organizational performance **(Table 4 & 5).** Rather, the high and statistically significant relationship between green HR practices and green organizational citizenship behavior (β = 0.413, p < 0.001) highlights the importance of HR-based environmental orientation in influencing the voluntary pro-environmental behavior of employees (Elayan *et al.*, 2026; Ali *et al.*, 2024; Gyensare *et al.*, 2024). In turn, the considerable influence of green organizational citizenship behavior on corporate performance (β = 0.486, p < 0.001) supports this, which proves that discretionary behaviors can be considered one of the main channels through which environmental strategies are realized. The mediating effect is thus strong and implies partial mediation in which the outcome of behavioral involvement enhances the performance of the structured HR programs in line with previous research that shows the significance of extra-role environmental behavior in realizing sustainability outcomes (Fatima & Laheri, 2025; Paille & Raineri, 2015). Moreover, the model shows moderate predictive power, with green HR practices explaining a significant amount of variance in green organizational citizenship behavior (R^2 = 0.67), and both predictors explaining a significant amount of corporate performance (R^2 = 0.43057), which shows acceptable predictive value. Notably, institutional pressure (β = 0.129, p<0.01) moderates the positive association between green organizational citizenship behavior and performance, indicating that the positive association between the two is stronger in the place of increased regulatory and normative expectations (Doghan, 2024; Xie & Lau, 2023). This is consistent with the institutional theory, which suggests that external pressures promote organizational responsiveness and legitimacy (Krishnakumar & Rajkumar, 2026; Gyensare *et al.*, 2024), and especially in the context of policy-driven environments, where the aspect of sustainability compliance is undoubtedly becoming more important (Faisal, 2023). In sum, these findings indicate that green HRM performance benefits are not only a byproduct of internal functioning but may also be the product of the interaction between structured HR systems, employee-motivated environmental practices, and institutional forces that reinforce them, which provides a holistic and empirically based idea of sustainability-based organizational success.

Theoretical and Practical Implications

The research has significant theoretical and practical implications as it contributes to the knowledge on how eco-oriented human resource systems lead to organizational performance in a structured behaviorally contingent paradigm. Theoretically it builds on the green HRM literature by combining the ability-motivation-opportunity view with the institutional theory by showing that the effectiveness of green HR practices is not directly determined but rather is largely mediated by employee discretionary behavior which is in turn conditioned by the external institutional pressures. This underscores a more holistic, multi-layer elucidation where internal competences and external pressures co-determine sustainability performance and thus a step forward in terms of linear models and a more context-bound perspective to the management of the organizational environment. Practically, the findings advise managers to stop being symbolic in the implementation of the green policies and instead develop HR systems that are proactive in encouraging employee participation in the environmental programs by means of specific training, performance rewards and participative actions. Additionally, institutional pressures should also be utilized strategically as an enabling force to strengthen pro-environmental behaviors and improve performance outcomes in organizations that are highly regulated or competitive. To policymakers, the findings highlight the need to enhance regulatory frameworks and normative guidelines to establish an environment that enhances organizational sensitivity to sustainability objectives, especially in emerging economies where institutional support is a key determinant of corporate environmental behavior.

Managerial and Policy Implications

The implications of the findings are clear with respect to both managers and policymakers who are interested in enhancing the sustainability of their organizations. To managers, the evidence highlights that green human resource practices should be entrenched as operational systems as opposed to symbolic programs; recruitment, training, performance appraisal, and reward systems should clearly focus on environmental competencies and behaviors to motivate employees to participate in sustainability initiatives voluntarily. Specific focus must be put on the creation of a productive environment in which the workers feel free to introduce and maintain eco-friendly activities because such discretionary actions are the ones that determine the performance. Another strategic benefit that managers must appreciate is that internal practices should be aligned with external expectations, and this is best achieved by taking the initiative to respond to the regulatory requirements, industry standards, and stakeholder pressures, thus making compliance a competitive advantage. Policy-wise, the findings have shown the significance of strong regulatory frameworks and explicit environmental guidelines that not only enforce the compliance but also encourage organizations to implement and internalize green practices. This transition can be further enhanced by governments and regulatory authorities providing training facilities, certification programs and financial incentives to firms to invest in HR systems that are environmentally friendly. It is necessary to coordinate both the organizations and policymakers to ensure that they develop an ecosystem where sustainable practices are not just implemented but also effectively converted into organizational and societal outcomes.

Limitations

This study has a number of limitations which, despite its contributions, opens up avenues of future research. First, the cross-sectional design does not allow drawing conclusions about the causality between green HR practices, green organizational citizenship behavior and corporate performance; longitudinal or time-lagged research would be more effective in demonstrating the existence of causal relationships and dynamic impacts. Second, self-reported data means that there could be common method bias, which could be improved by adding multi-source data, e.g., supervisor ratings or objective performance indicators, to the research in the future. Third, the study is limited to a national and sectoral context, which can diminish its generalizability; the comparative research across industries and nations will assist in testing the model within various institutional frameworks.

Future Scope

Whereas institutional pressure was considered as a moderator, future studies may consider other boundary conditions, including organizational culture, leadership styles, or digital transformation abilities, to offer a deeper insight into when and how green HR practices are most effective. Lastly, additional research on other mediating variables, including green innovation or environmental commitment of the employees, would contribute to theoretical development and provide better understanding of the ways sustainability-focused HR systems can impact organizational performance.

Conclusion

To sum up, this paper has shown that green human resource management practices are crucial in improving corporate performance, both directly and indirectly via the key mechanism of critical green organizational citizenship behavior. The results indicate that when environmental values are formally incorporated into HR functions, they can not only influence the formal organizational process but can also inspire voluntary and employee-initiated actions that can play a substantial role in the performance results. Furthermore, the findings point out that these behaviors are not uniformly effective but rather enhanced in situations of increased institutional pressure whereby regulatory expectations and stakeholder demands enhance organizational commitment towards sustainability. The study offers a more holistic concept of how the environmental strategy is converted into tangible organizational benefits by incorporating both internal HR competencies and external contextual forces. In general, the studies indicate that to reach sustainable performance, it is not only a matter of policy implementation but rather one of developing a workforce that is both proactive and committed to environmental objectives in a well-regulated and institutional climate.

CRediT Authorship Contribution Statement

S.T.: Planned the study, created the framework for the research, analyzed the data, deciphered the fi ndings, and wrote the first draft of the manuscript.S.A.K.:Helped design the approach, polish the theor y, supervise, and critically evaluate the text.A.J.:Data collection, literature review and manuscript editi ng were all aided.F.A.O.: Helped with the findings interpretation, validation, and statistical analysis.M. J.Z.: Took involved in the final manuscript revision, formatting, proofreading, and data management.

AI Assistance Declaration

The authors have critically investigated and developed all the scientific content, intellectual contributions, methodological decisions, analytical procedures and scholarly judgements presented in this manuscript independently. Data collection, data analysis, interpretation, research findings and scientific conclusions were not completed with the use of AI tools. Authors have sole responsibility for all intellectual content, design, methodology, analysis and final decisions concerning the manuscript. The authors assume full responsibility for the integrity, validity and authenticity of the work and state that this work has not been affected by the use of AI-assisted tools in a manner that has impaired the rigor, transparency or originality of the research.

Conflict of Interest

The author declares that there are no conflicts of interest related to this study. The research was conducted independently, without any financial, commercial, or personal relationships that could be perceived to influence the findings or interpretation of the results. All procedures were carried out with full transparency and in accordance with established academic and ethical standards.

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