Impact of Green HRM Practices on Environmental Performance of Organizations: An Analysis of the Moderating Role of Green Internal Environmental Orientation in Enhancing Sustainability in Textile Sector of Pakistan

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Abstract

Drawing on the Upper Echelon Theory (UET) and the Ability-Motivation-Opportunity (AMO) framework, the purpose of this study is to examine the impact of six green HRM practices, such as green recruitment and selection (GRS), green reward and compensation (GRC), employees' green empowerment and participation (EGEP), green organizational culture (GOC), green performance management system (GPMS), green training and development (GTD) on environmental performance of organizations (EPO) in textile industry of Pakistan. The study also analyses the moderating role of green internal environmental orientation (GIEO) in the relationships between GHRM practices and EPO. The data were collected from 445 employees, working at the managerial level of 20 green-certified large textile Mills located in Multan and Faisalabad divisions of Pakistan through a questionnaire survey. PLS-SEM structural modelling techniques were employed to predict these relationships. According to findings, all six green HRM practices have positive and significant impacts on the environmental performance of organizations. However, the impact of green internal environmental orientation (GIEO), which is proxied to top management commitment to environmental sustainability, has an insignificant impact on this relationship. The study predicts that green HRM practices are more effective tools than green internal environmental orientation (GIEO) to enhance the environmental performance of organizations.

Keywords: Green HRM Practices; Internal Environmental Orientation; Green Reward, Green Organizational Culture; Environmental Performance of Organizations.

Introduction

Climate change and global warming have severe effects on employees, businesses, and livelihoods worldwide. The recent California wildfires exemplify the devastating consequences of climate change, and it prompts scholars, academicians, and global institutions like the United Nations to

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advocate for sustainable business practices. Pakistan's textile industry, primarily catering to the U.S. and European markets, faces increasing pressure to implement eco-friendly measures. Buyers prioritize sourcing from green-certified factories to reduce carbon emissions and ensure employee health and safety (CIPI, 2023; Singh & Pandey, 2020). Globally, shifting consumer preferences drive businesses toward green strategies. Bangladesh and other countries implementing GHRM practices have reported improved employee retention (Islam et al., 2023). Green HRM positively influences on-the-job and off-the-job employee behaviour (Karmoker et al., 2021; Rubel et al., 2021). GHRM is recognized as a crucial tool for fostering pro-environmental behaviour, especially in labour-intensive industries like textiles (Rubel, 2021). Research indicates a positive impact of green employee involvement, training, and development on engagement (Aktar & Islam, 2019). Effective HRM practices significantly contribute to organizational success, particularly when resources are scarce and unique. The GHRM in various sectors such as healthcare (Ibrahim et al., 2024), hospitality (Lim et al., 2023), and automotive (Rubel et al., 2021; Yu et al., 2020) has been covered in previous research. However, little research investigates its impact on environmental performance in the textile sector of Pakistan, particularly the role of top management in eco-friendly practices. This study examines the impact of six GHRM practices on the environmental performance of the organization and how green internal environmental orientation (GIEO) moderates between them. Considering Pakistan's dire need to resonate with global environmental initiatives and the fact that Pakistan needs to meet the UN's zero-emission target by 2050, addressing this gap is imperative (Haque et al., 2024).

This study has selected a large manufacturing sector of Pakistan's economy as the focus of this study and. leading textile firms including Interloop Ltd., Nishat Mills Ltd., Gul Ahmed Textile Mills Ltd., and others, comply with environmental standards in production, packaging, marketing, and supply chain processes are included into its sample to investigate the relationship between green HRM practices and environmental performance. Some textile factories, such as Interloop and Gul Ahmed, have subsidiaries in the U.S., U.K., and UAE for distribution and sales.

Literature Review

Theoretical Framework

The Ability-Motivation-Opportunity (AMO) is an important Theory and it suggests that HRM practices enhance employees' ability, motivation, and opportunity, ultimately improving organizational performance (Appelbaum et al., 2000). It explores how high-performance work systems (HPWS) improve employees' skills, self-initiative, and opportunities to excel (Gardner et al., 2011; Jiang et al., 2012). This study uses AMO theory to examine whether Green HRM (GHRM) practices support environmentally sustainable firms in Pakistan.

The Upper Echelons Theory (UET) posits that organizational performance reflects top management's beliefs (Hambrick & Mason, 1984). Researchers have extensively used UET to assess managerial behaviour and its impact on GHRM practices and environmental performance (Finkelstein & Hambrick, 1990). Various studies conducted on automobiles, banking, and cement, have explored these theories about employee engagement. However, this study uniquely explores six GHRM practices—Green Recruitment and Selection, Green Training and Development, Green Performance Management System, Green Reward and Compensation, Green Employee Empowerment and Participation, and Green Organizational Culture—in Pakistan's textile sector. It also examines Green Internal Environmental Orientation (GIEO) as a moderator, marking the first study of its kind in Pakistan.

Hypothesis Development

Green internal Environmental Performance of Organizations

Green internal environmental performance refers to an organization's capability to reduce its environmental impact through sustainable practices organizations (Arda et al., 2018; Ren et al., 2022; Fujii et al., 2013; Aigbedo, 2021; Omran et al., 2021). Recent studies highlight that organizations following green policies may experience long-term success as well as regulatory compliance (Haldorai et al., 2023; Anwar et al., 2020; Pham et al. 2020; Rehman et al. 2021; Mansoor et al. 2021). Energy saving, waste reduction, and lowering carbon footprint, for example, are green internal initiatives that have a direct effect on environmental performance (Kwok et al., 2022; Pham et al. 2020; Rehman et al. 2021; Mansoor et al. 2021). The results are consistent with the findings of Paillé et al. (2023). Fu et al. (2023), who identified the similar results.

Green Recruitment and Selection (GRS)

Green recruitment and selection (GRS) integrate environmental requirements into hiring practices to attract eco-mind employees (Jardioui et al., 2023**;** Al-Ghazali, 2021; Labella-Fernández, 2021; Amrutha & Geetha, 2020). Organizations adopting GRS aim to hire individuals with pro-environmental behaviours, thereby strengthening the firm's sustainability goals (Adekoya et al., 2023). Studies by Cabral & Dhar (2022) highlight that firms prioritizing green recruitment experience lower turnover rates, as employees align better with corporate environmental values. Aziz et al. (2023). argue that a structured green hiring process positively impacts environmental commitment and organizational citizenship behaviour Therefore, we hypothesize:

H1: Green recruitment and selection positively correlate to environmental performance. Of organizations.

Green Training and Development (GTD)

Green training and development (GTD) denote programs that improve an employee's environmental conscious and competencies (Islam et al., 2022; Shoaib et al., 2021; Amjad et al., 2021). Studies recommend the implementation of GTDs since when suitably designed, they promote eco-friendly behaviours with a positive impact on organizations' sustainability performance (Rubel et al., 2021). Haque et al. (2024) highlight that resource efficiency training, pollution control training, and green innovation training can be very beneficial for the environmental performance of firms. Additionally, as noted by Vollero & Siano (2023), organizations that invest in GTD witness higher levels of employee engagement and reduced resistance to green transformations. Hence, we can hypothesize:

H2: Green training and development positively correlate to the environmental performance of organizations.

Green Performance Management System (GPMS)

The Green Performance Management System (GPMS) provides an alignment of employee performance with environmental objectives, which the same author says makes employees accountable for sustainability-oriented goals (Singh & Pandey, 2021). According to most studies, GPMS frameworks enhance employee commitment to green practices and corporate environmental strategies (Ababneh et al., 2021; Kwok et al, 2022). According to Adebayo et al. (2020) The implementation of green initiatives into firms' performance appraisal results in observed compliance with eco-friendly policies. Data implies gathering and validation in human-summary studies. Such literature (Amjad et al., 2021 & Joshi & Dhar, 2020) suggests that

comprehensive GPMS) will develop an organizational climate of sustainable environment and innovation. Hence, we hypothesize:
H3: Green performance management system positively correlates to environmental performance of organizations.

Green Reward and Compensation (GRC)
Green reward and compensation (GRC) provide financial and non-financial incentives for employees to adopt sustainability behaviours (Vázquez-Brust et al., 2023; Al-Ghazali, (2021); Labella-Fernández, (2021) According to some studies, GRC also increases the willingness of employees to adopt a corporate sustainable behaviour (Bos-Nehles et al., 2023; Haldorai et al. (2022), findings suggest that reward systems for contributions in sustainability can elevate performance on environmental fronts. According to. Haque et al (2024) Organizations with strong governance, risk, and compliance (GRC) frameworks are more likely to engage in voluntary green initiatives resulting in improved sustainability performance. Consequently, we hypothesize:
H4: Green rewards and compensation positively correlate to the environmental performance of organizations.

Employees' Green Empowerment and Participation (GEP)
GEP refers to the green empowerment and participation of employees in decision-making about environmental management (Paillé et al., 2023). According to new studies, employees with powerful positions are more likely to maintain sustainability and adopt new sustainable solutions than those who do not (Islam et al., 2022; Jardioui et al., 2022; Hameed et al. 2020; and Ahmad 2023). Note that GEP promotes a proactive culture around sustainability, and therefore reduces resistance to change (Smit, 2022; Adekoya et al., 2023; Boiral & Paillé, 2012). The study shows that organizations that promote employee participation in green initiatives achieve better environmental impact and greater corporation sustainability. Therefore, we hypothesize:
H5: Employees' green empowerment and participation positively correlate to the environmental performance of organizations.

Green Organizational Culture (GOC)
Green organizational culture (GOC) consists of the values and beliefs of an organization that emphasize a degree of environmental responsibility (Cabral & Dhar, 2021). Firms demonstrating strong GOC emphasize sustainability-based integrated into corporate undertakings that are also capable of influencing employee behaviours (Aziz et al., 2023; Gupta & Kumar, 2013; Margaretha & Saragih, 2013). Research by Rubel et al. drawn on (2021) reveals that organizations that bring green culture into their business models record higher levels of sustainability performance and gain competitive advantage. An aligned and well-expressed green culture which is inclusive and explained as it is in enterprise culture increases employee alignment with environmentally-based culture in enterprises and thus increases innovation in sustainable practices (Vollero & Siano, 2023; Ahmad, 2015; Jabbour, 2013). Hence, we hypothesize:
H6: Green organizational culture positively correlates to the environmental performance of organizations.

Moderating Role of Green internal Environmental Orientation (GIEO)
Green internal environmental orientation (GIEO) represents an organization's commitment to environmental sustainability (Ren et al., 2022; Paille et al., (2023). It has been suggested that

ecological innovation-oriented organizations (GIEO) moderate the relationship between green HRM practices and environmental performance (Kwok et al., 2022). Haque et al. (2024) found that firms with high GIEO tend to execute sustainability policies effectively. According to Haldorai et al. (2023), the organizations implementing GIEO into HRM practices can achieve greater alignment with corporate sustainability goals and employee engagement. Therefore, we hypothesize:

H7: Internal environmental orientation of green (commitment of top management to environmental sustainability) positively moderates the association of green recruitment and selection (GRS) with the environmental performance of organizations (EPOs).

H8: GIEO positively moderates the relationship between GTD and EPO

H9: Green internal environmental orientation (GIEO) positively moderates the association between green performance management systems (GPMS) and the environmental performance of organizations (EPOs).

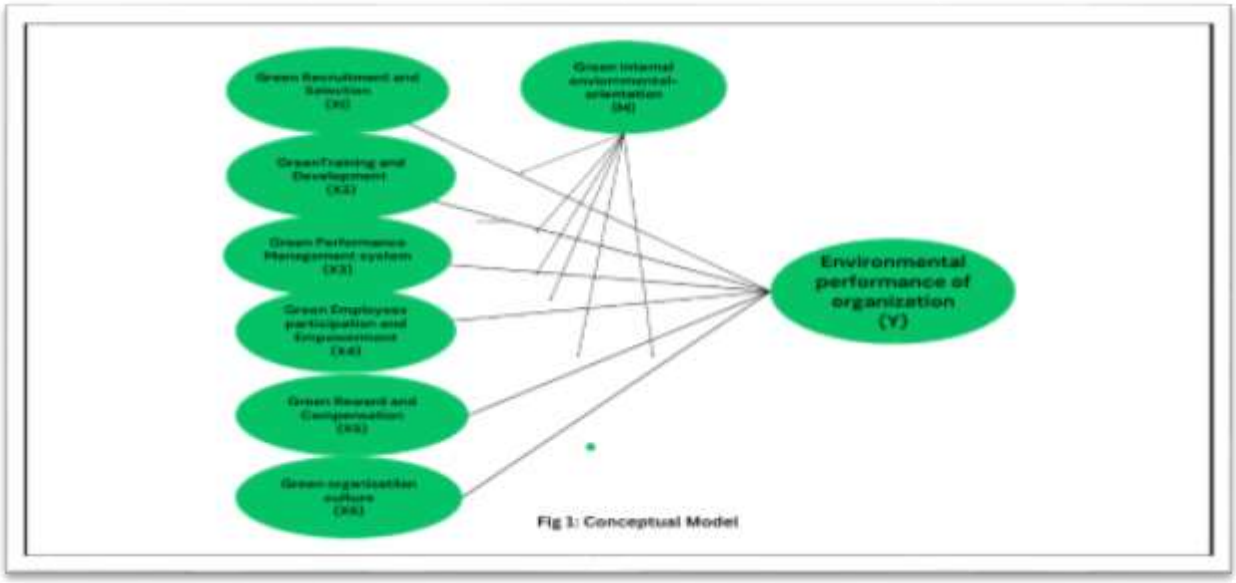
H10: Green internal environmental orientation (GIEO) positively moderates the relationship between employees' green empowerment and participation (EGEP) and POs

H11: Green internal environmental orientation (GIEO) positively moderates the relationship between organizations' green reward and compensation and the environmental performance of Organizations (EPOs)

H12: Green internal environmental orientation (GIEO) moderates positively the positive relationship between green organization culture (GOC) and environmental performance of organizations (EPOs).

The conceptual model of the study showing the direct and indirect relationship between independent, moderating and dependent variables is presented in Figure 1.

Figure 1: Conceptual model



Methodology

This study aims at investigating the impact of green HRM practices on the environmental performance of organizations through moderating role of green internal environmental orientation

(GIEO) using primary data collected from 445 employees of 20 ISO-green certified large textile units located in Multan and Faisalabad districts of Pakistan. This sector was selected because it provides employment to 65% of active labor force and contributes 60% to total exports. The data were collected through a survey questionnaire by convenience sampling technique. Environmental performance of organizations was a dependent variable, while independent variables include**:** green recruitment and selection, green training and development, green performance management system, green rewards and compensation, green employee empowerment and participation, and green organizational culture. The green internal environmental orientation (GIEO) was adopted as a moderating variable. The sample size is sufficient as per Cochran's formula suggested by (Uakarn et al., 2021. We conducted a pilot study among 40 participants to check the comprehensiveness and internal consistency of the items. Further, the pilot study outcomes show that the constructs depict a reliability exceeding 0.70 and met the reliability criteria as suggested by Sekaran, (2003). We used a popular modelling technique called Structural Equation Modelling (SEM) to develop, assess and empirically improve theories as suggested by Khan et al., 2019; Hair et al., 2021). More specifically, we used Partial least squares – Structural equation modeling (PLS-SEM) approach as suggested by Hair et al., 2012; Sarstedt et al., 2016). This approach possesses adequate capacity to solve endogeneity issues and a strong predictive power, besides having wide acceptability in business research as reported by Lim et al. (2022) and Haque et al. (2024).

Results and Analysis

Demographic Information

In this study, total number of participants were 445 and among them 300 were male and 145 were female, showing gender disparity. The apparent reason for this disparity is that in Textile industry, heavy physical work is involved and as such the ratio of women is very low. Most of the workers work in stitching textile units and perform their duties in day time. The age of the majority of participants (225) was between 26-30 years. Out of total 445, 325 participants were married, while 120 were unmarried. 200 participants had MS/M. Phil. qualifications, while 105 were Batchelor degree holders. The income of majority of participants was between Rs.30,000 and Rs.50,000 per month. Out of 445 participants, 180 had four to six years job experience.

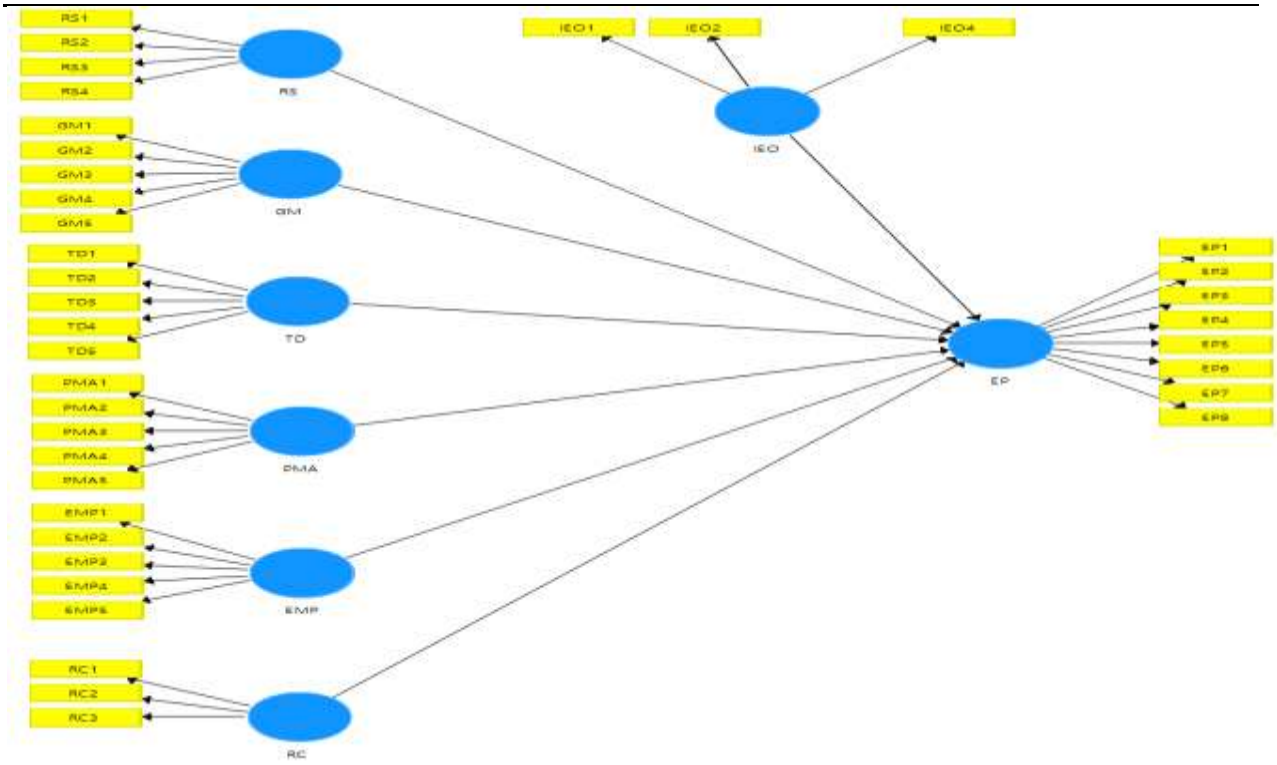
Measurement Model

To test the validity of the measurement model of this study, we examined reliability, and discriminant and convergent validity followed by confirmatory factor analysis. Factor loadings of the items are highlighted in Table 1 and Figure 2 and the items' factor loading found to be greater than 0.7 that confirms the validity of the measurement scale. In addition, the AVE, CA and composite reliability (CA) results indicated that they are above their threshold values of 0.5, 0.7 and 0.7, respectively. These outcomes confirm satisfactory validity and reliability suggested by Lim (2022b).

Table 1: Measurement model

Constructs	No of items	Loading	Average variance extracted (AVE)	Cronbach Alpha (CA)	Composite Reliability CR)
Green organization culture (GOC)	5	0.779	0.640	0.785	0.864
Green recruitment and selection (GRS)	5	0.848	0.742	0.732	0.817
Green Training and development (GTD)	5	0.801	0.725	0.708	0.905
Green Performance management and system (GPMS))	5	0.735	0.696	0773	0.869
Green reward and compensation (GRC)GG	3	0.812	0.711	0.704	0.826
Employee Green empowerment and participation (EGEP)	5	0.780	0.589	0.777	0.907
Green internal environmental-orientation (GIEO)	4	0777	0.664	0.708	0.829
Green environmental performance of organization (GEPO)	8	0.794	0..788	0.792	0.856

Figure 2: **Measurement model**



Discriminant Validity

The results of Heterotrait-Monotrait (HTMT) ratio of correlations that tested the discriminant validity is presented in Table 2. Values were under 0.85 (for composite correlations), hence, they support the evidence of discriminant validity (Hair et al., 2021; Lim et al., 2023). We apply HTMT method (Fornell and Larcker, 1981, Kline, 2011) to check the issue of discriminant validity and we found that all values are within the acceptable range and there is no any issue related with discriminant validity.

Table 2: Discriminant validity- Heterotrait-Monotrait (HTMT)

	EGMP	GRS	GIEO	GPMS	GOC	GRC	GTD
EGMP	0.737						
GRS	0.416	0.506					
GIEO	0.414	0.549	0.331				
GPMS	0.492	0.355	0.363	0.580			
GOC	0.597	0.643	0.496	0.244	0.277		
GRC	0.456	0.453	0.085	0.180	0.099	0.480	
GTD	0.435	0.372	0.857	0.182	0.355	0.509	0.116

Variance Inflation Factors

We also used variance inflation factor (VIF) to check multicollinearity among the constructs. The outcomes reveal that all values lie between 1.40 and 3.19, and are less than threshold of 3.30 (Hair et al., 2017): (Kock., 2017). This indicates that there is no problem of multicollinearity in the constructs and non-response bias in the dataset of the study. Table 3 demonstrates the outcomes of variance inflation factors.

Table 3: VIF outcomes

Constructs	VIF
Employee green empowerment and participation (EGMP)	1.700
Green organizational culture (GOC)	2.681
Green internal environmental orientation (GIEO)	1.420
Green performance management and appraisal (GPMA)	1.561
Green reward and compensation (GRC)	1.616
Green recruitment and selection (GRS)	1.335
Green training and development (GTD)	2.671

Structural Model

To test the significance of structural model for this study, we evaluated t-statistics which were calculated via the bootstrapping procedure (with 5000 sub samples as noted by Hair et al., 2021). For this purpose, the explanatory variables were Employee green empowerment and participation (EGEP), Green performance management system (GMS), Green organizational culture (GOC), Green recruitment and selection (GRMS), Green reward and compensation (GR&C), Green training and development (GTD), where the moderating variable was Green internal environmental orientation (GIEO) and the explained variable was Environmental performance of organizations (EPOs). Top management commitment with environmental sustainability was proxied with the green internal environmental organization (GIEO)). According to the estimated

results, the direct pathways of the model were positive and significant and all constructs have a positive and significant relationship with environmental performance of organizations.
The Structural model results are presented in Table 4 and Figure 3.

Table 4: Structural Model results

Constructs	EPO	GPM&A	GIEO	GOC	GR&C	GR&S	GTD
EGEP	0.737	0.506	0.549	0.355	0.643	0.453	0.372
GPMS	0.416						
GIEO	0.414	0.331					
GOC	0.492	0.363	0.580				
GRC	0.597	0.496	0.244	0.277			
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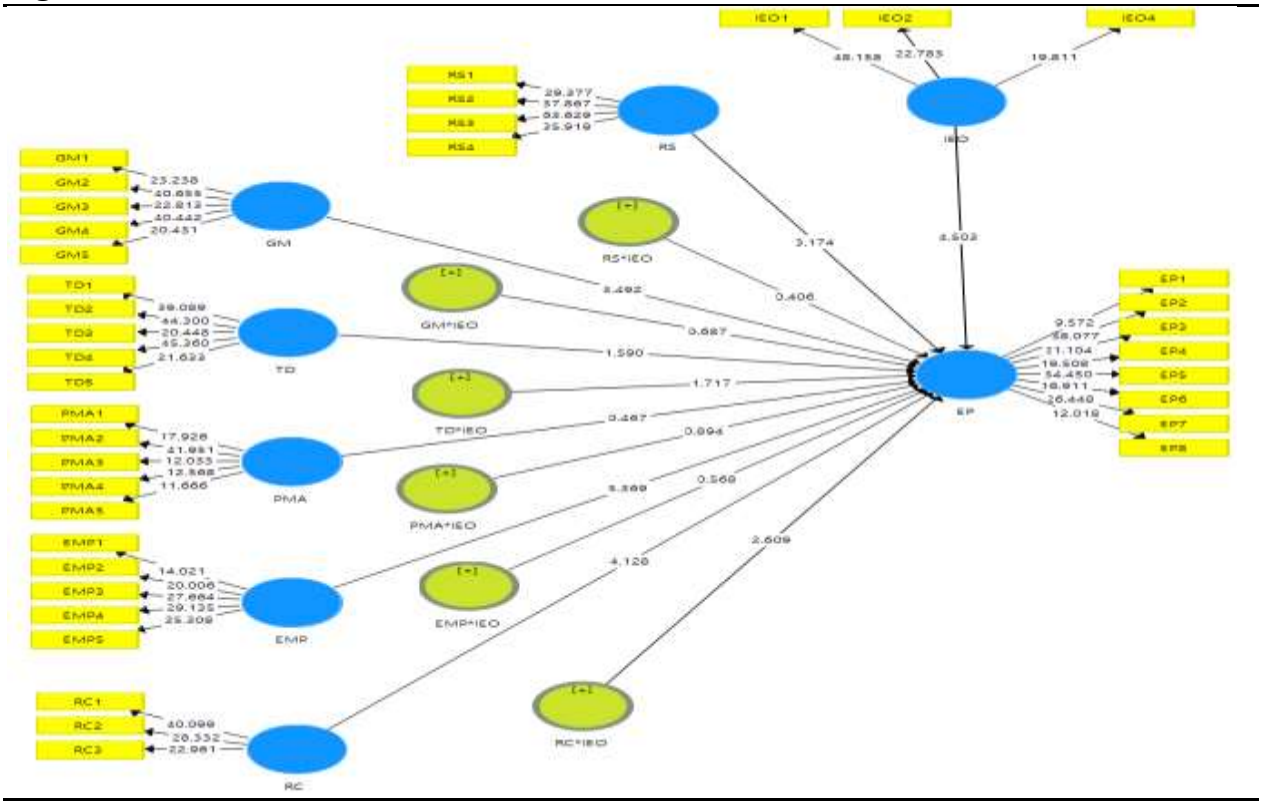
Figure 3: Structural model



Hypotheses Testing

Direct Path Analysis

The direct effect of six green human resource management (GHRM) practices on environmental performance of organizations (EPOs) is shown in Table 5. Our empirical results indicate that the relationship of all variables with environmental performance of organizations are positive and statistically significant, suggesting that green HRM practices are signaling positive environmental outcomes. The GMPS recorded the dependence on environmental performance with the highest beta coefficient (0.737). This strong relationship ($t = 14.486$, $p < 0.001$) suggests organizations

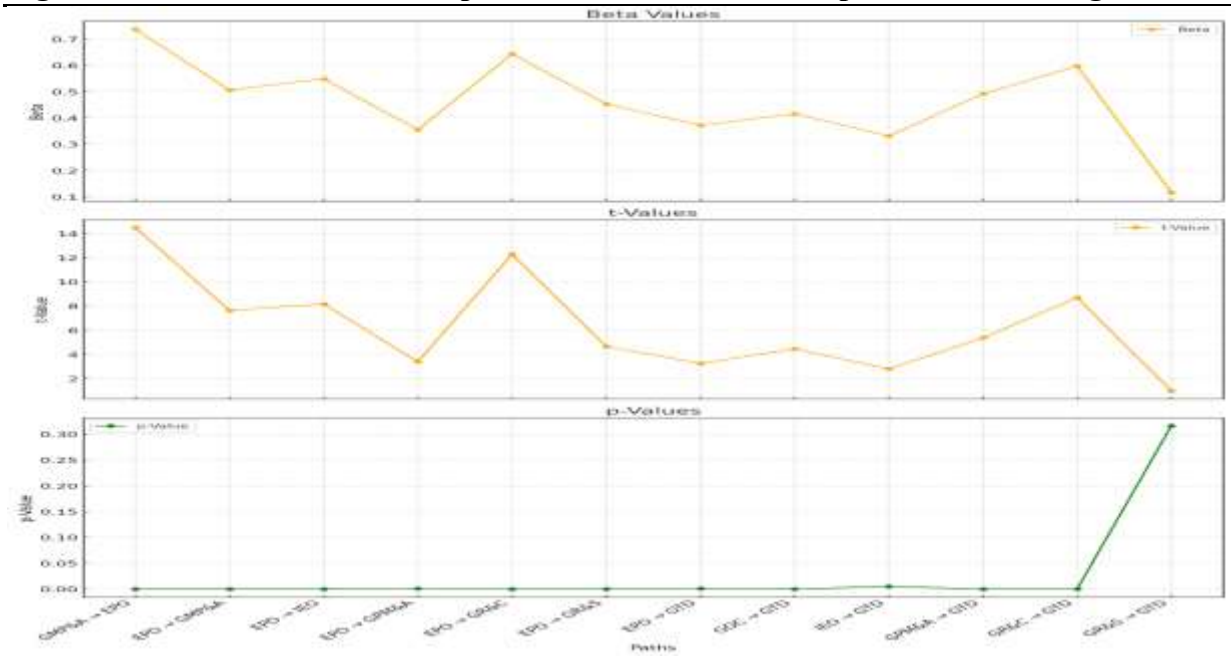
that emphasize environmental performance are more likely to encourage the use and implementation of comprehensive management systems, which help tracking and enhancing their green images. These systems are responsible for ensuring adherence to environmental regulations while also promoting sustainable operations practices. In addition, there is a significant relationship between green organizational culture and environmental performance of organizations ($\beta = 0.506$, $t = 7.637$, $p < 0.001$). These results suggest that when organizations prioritize environmental performance, they are more likely to foster an organizational culture that emphasizes sustainability, pro-sociality, and environmental compassion. An intense green culture is needed to take the behavior and temperament of the employees in the direction of the organization for sustainability. In addition, Employees' Green Empowerment and Participation (EGMP) also has a significant positive relationship with environmental performance ($\beta = 0.355$, $t = 3.405$, $p = 0.001$). Despite the small effect size compared to both GMPS and GOC, this finding suggests that employee empowerment and involvement in green practices is indeed a key mechanism through which organizations can improve environmental performance. This engagement probably results in higher levels of innovation and dedication to environmental efforts at the local level. The results reveal that Green Recruitment and selection (GRC) ($\beta = 0.643$, $t = 12.281$, $p < 0.001$) and Green Reward and compensation (GRS) ($\beta = 0.453$, $t = 4.663$, $p < 0.001$) are statistically positively related to environmental performance. The implications of these findings suggest that companies actively undertaking environmental goals at recruitment and compensation stages would effectively attract talent whose mindset aligns with pro-environment practices as the organization continues to encourage green practices. A significant positive relationship between environmental performance and green training and development (GTD) ($\beta = 0.372$, $t = 3.255$, $p = 0.001$) suggests that organizations with better environmental performance are more willing to cultivate green training and development. The relationships between green HRM practices and the environmental performance of organizations in relation to six green HRM practices have been empirically confirmed. Hence, the hypotheses: H_1, H_2, H_3, H_4, H_5 and H_6 are accepted due to empirical supports. These findings also support theoretical framework based on UET and AMO and empirical analysis of Hameed et al. 2020; Ahmad 2022;2023)

Table 5: Direct effect of green HRM practices on environmental performance of organizations (EPOs)

Hypothesis	Paths		Beta	t-Value	P-Value	Decision
H1	EPO →	GMPS	0.737	14.486	0.000	Supported
H2	EPO →	GOC	0.506	7.637	0.000	Supported
H3	EPO →	EGMP	0.355	3.405	0.001	Supported
H4	EPO →	GRC	0.643	12.281	0.000	Supported
H5	EPO →	GRS	0.453	4.663	0.000	Supported
H6	EPO →	GTD	0.372	3.255	0.001	Supported

The relationships calculated based on beta value, t-values, and p-values are illuminated in the Figure 4. Beta values reflect strength of relationship across the paths, while t-values depicts the statistical significance of these relationships, and p-values highlight the probability values to validate the significance.

Figure 4: Direct effect of GHRM practices on environmental performance of organization



Moderating Analysis

Table 6 illustrates the moderating effects of Green Internal Environmental Orientation (GIEO) on the relationships of several Green Human Resource Management (GHRM) practices with Environmental Performance of Organizations (EPOs). The results show that when the relationship between employees' green empowerment and participation was moderated by green internal environmental orientation, the relationship was insignificant. It indicates that internal environmental orientation of organization ($p = 0.285$, $t = 0.568$) does not significantly strengthen or weaken impact of employees' green engagement on green performance. Thus, H_7 is rejected as empirical evidence did not support the link between these two variables. Similarly, the impact of green performance management system, moderated by green internal environmental orientation (GIEO), on environmental performance of organizations is not significant ($p = 0.246$, $t = 0.687$). Hence, GIEO does not moderate the relationship of green performance management system and environmental performance of organization. Therefore, H_8 is discarded due to the absence of hard evidence supporting the indirect relationship. But when they moderated by green internal environmental orientation (GIEO) then we found that the green recruitment and selection (GRS) and Green organizational culture (GOC) have a significant negative impact on the environmental performance of the organization. This indicates that if a company has a good internal environmental orientation, the influences of green recruitment and selection and green organizational culture on environmental performance are likely to be diminished, which is not in line with our expectations. This can highlight a disconnect between recruitment policies, green organizational culture and organizations' actual environmental strategies. Therefore, hypotheses, H_9 and H_{10} are rejected as no empirical support. In addition, GRC and GIEO moderated and exhibit positive significant effects on environmental performance of organization (EPO) ($p = 0.342$, $t = 0.406$), indicating that GIEO reinforces the positive effect of rewarding (or compensating) employees to be involved in green programs Therefore, hypothesis, H_{11} is accepted. In the same vein, green training and development with moderation of green internal environmental orientation

(GIEO) also exerts positive effects on environmental performance of organizations (p = 0.043, t = 1.717). It implies that GIEO has positively moderated the relationships between GTP and GSTR, ensuring that in its presence, organizations could have more fruitful results from their green HR practices related to training and development. Hence, hypothesis, H_{12} is accepted due to empirical evidence which supports to this indirect relationship. Thus, we can conclude that all hypothesis such as H_7, H_8, H_9, H_{10}, H_{11} and H_{12} are confirmed by the hard evidence of empirical analysis and it has been established that green HRM practices operates independently and does not require moderation of any external or internal factor in enhancing environmental performance of organizations.

Table 6: Moderating Analysis Outcomes

Hypothesis	Indirect Path	Beta	Sample Mean	Standard Deviation	t-Statistic	P-Value	Decision
H7	EGEP * GIEO EPO	0.044	0.041	0.078	0.568	0.285	Rejected
H8	GPMS * GIEO EPO	0.066	0.064	0.096	0.687	0.246	Rejected
H9	GOC * GIEO → EPO	-0.051	-0.053	0.057	0.894	0.186	Rejected
H10	GRC * GIEO → EPO	-0.211	-0.201	0.081	2.609	0.005	Accepted
H11	GRS * GIEO → EPO	-0.020	-0.031	0.050	0.406	0.342	Rejected
H12	GTD * GIEO → EPO	0.161	0.165	0.094	1.717	0.043	Accepted

The results of moderating path analysis are also displayed in Figure 5, showing green signs for positive and red signs for negative moderating impacts.

Discussion

This research establishes empirical evidence for predictors of green HRM practices in Pakistan's textile industry, examining the impact of six green practices on environmental performance (EPOs). The findings highlight green HRM practices as key predictors of environmental performance, aligning with previous studies (Haque et al., 2024; Adekoya et al., 2023; Aziz et al., 2023; Cabral & Dhar, 2021). Among these, Employees' Green Empowerment and Participation (EGEP) has a positive but relatively weak effect, underscoring the role of employee engagement in environmental sustainability. These findings were in agreement with studies of by Paillé et al. (2023); Vollero and Siano (2023); Ren et al. (2022), and others, emphasizing the fact that empowering employees trigger innovation and commitment to environmental goals.

The study empirically identified the Green Internal Environmental Orientation (GIEO) as moderator highlights the significant impact of Green Reward and Compensation (GRC) and Green Training and Development (GTD) on environmental performance. Conversely, GIEO does not have a significant effect on the relationship between EGEP, Green Performance Management System (GPMS), Green Organizational Culture (GOC), Green Recruitment and Selection (GRS) and environmental performance of organization. It shows that these four HRM practices act independently without any external moderating factors. The limited effect of GIEO also observed by previous studies (Jardioui et al., 2020; Adebayo et al., 2020; Paillé et al., 2023), This weak relationship may be because top management of Pakistan's textile industry is not committed to environmental conservation and green HRM programs (Vázquez-Brust et al., 2023).

Concluding Remarks

This research has practical implications for managers, employees, policymakers, and stakeholders in Pakistan and other textile-producing regions. The study underscores the importance of green HRM practices such as green organizational culture, empowerment, rewards, and recruitment in improving environmental performance. But without strong leadership commitment to sustainability, none of these efforts can be proven impactful. Thus, managers must build extensive green strategies and engage in employee training to encourage environmental sensitivity. In addition, organizations must provide financial and non-financial rewards to environmental sustainability experts to encourage them to motivate others to join the effort. These plans serve the dual purpose of fortifying employee engagement, while bolstering an organization's good-will in the eyes of eco-conscious consumers. Aligning Corporate Sustainability Strategy with the UN Sustainable Development Goals (SDGs) A primary lesson learnt for textile industry managers in Pakistan is that a top-down strategy alone should not be pursued for sustainability.

Limitations and Future Research Directions

This study has certain limitations that provide avenues for future research. A notable limitation is that the research was confined to Pakistani respondents. Future studies should include Western and Oriental perspectives to capture multicultural HRM practices in emerging markets. Additionally, future research should examine a broader range of global HRM indicators beyond those considered in this study. Future studies may also include a mediating variable to measure its effect on the connection of green HRM practices with environmental performance. Lastly, this study is limited to the textile sector of Pakistan only. Future studies should also adapt the moderation (of industry) and mediation (of green culture) hypotheses to other sectors to examine how green HRM practices affect environmental performance in various fields.

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