

When HRM Turns Green: Exploring the Role of Psychological Climate in Driving Environmental Performance in Public Hospitals in Pakistan

Omar Ahmed Shaikh¹, Asim Mubashir*², Muhammad Waqasi³

¹Assistant Professor, Karachi University Business School, University of Karachi, Karachi, Sindh, Pakistan.

^{2*}Assistant Professor, Karachi Institute of Economics and Technology, Karachi, Sindh, Pakistan.

³Research Scholar, Karachi University Business School, University of Karachi, Karachi, Sindh, Pakistan.

Corresponding author: asim.mubashir@kiet.edu.pk

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This study evaluates the impact of Green Human Resources Management Practices—Green Employee Compensation, Green Performance Management, Green Hiring and Recruitment, and Green Training and Development on environmental performance with the moderating effect of Psychological Green Climate (PGC) in public hospitals based in Karachi, Pakistan. The author designed this research under the principles of positivist philosophy with a deductive approach as a cross-sectional survey study. A structured questionnaire on a five-point Likert scale collected data from 350-400 employees working in hospitals. Convenience sampling was used for collecting responses that were later analyzed in Smart PLS-4. The results also show significant effects of green performance management, green hiring and recruitment, and green training and development on environmental performance, while there was no direct significant effect from green employee compensation on environmental performance. PGC strengthens all relationships between GHRM practices and environmental performance, which means that it plays a strong moderating role. Hospitals should incorporate green KPIs into appraisals, plus recruitment of environmentally oriented individuals, along with continuous green training, and a psychologically supportive climate to sustain results. Compensation policies cannot stand alone; they must be enforced under a wider green climate. This study adds to the scanty literature available on GHRM concerning the healthcare sector of a developing country by underscoring the role played by contextual factors — more particularly, that of psychological green climate — toward making HRM practices effective in attaining environmental performance.

1. Introduction

Human resource management is important in both large and small enterprises. The concept of Green HRM was inspired by sustainability. Countries are gradually integrating growing concerns for future ecological challenges due to the effects of the industrial revolution on nature (Zhang et al., 2023). This makes them, in turn, urge corporate entities to exercise sustainable development (Sharma & Gupta, 2015). Grammatically, GHRM in this study, per se, helps facilitate improved environmental performance, which has been a major theme in previous literature works. Organizations use Green Human Resource Management Practices (GHRMP), including green employee compensation, green hiring and recruitment, green performance management, and green training and development to ensure environmental performance (Ren, Tang & Jackson, 2018). Employees who have received substantial environmental training will most probably be more sensitive to environmental matters and have more means with which to address such issues. Many enterprises comprehend how crucial it is to engage employees in their plans toward better sustainable performance. The credibility and advantage of an organization over others nowadays depend mostly on its environmental operations (Paille' et al., 2014; Tang et al., 2018). Programs related to waste minimization and the efficient use of energy and all other resources are also important to be put into action (Davis et al., 2020; El-Kassar & Singh, 2019; Ojo et al., 2022).

This study psychological green climate and environmental performance knowledge gap between the significant variables by bringing their relationship whereby green human resource management practices have advanced. Therefore, based on SLT, RBV Theory, and Person-Environment Theory, this study attempts to empirically investigate the effects that different GHRMPs have on environmental performance within the context of a sample of public hospitals located in Karachi, Pakistan. Pakistan's healthcare industry has improved; however, there is a lack of durable plans or means to get the nation to better understand how to attain and raise eco-efficiency. (Malik, 2015). It will use an online survey with the help of a structured questionnaire comprising different questions relating to the main variables of the study. This paper shall further consolidate the requirement for embedding Organizational GHRMP as a part of organizational strategy so that it and results in improved environmental performance, eventually in the long run (Smit, 2023). Psychological green climate mediates the relationship between green HRM practices and environmental performance since limited studies on psychological green climate have revealed that employee perceptions regarding organizational environmental practices, policies, and processes significantly influence employee behavior (Schneider et al., 2013), which encourages employees to perform eco-friendly activities that will enhance environmental performance.

1.1 Problem Statement

United Nations sustainable development goals (SDGs) are an overall set of 17 goals and 169 targets, which were implemented by world leaders in 2015 and serve as a guideline to the world on sustainable development up to 2030. These targets are meant to end poverty, secure the

planet, and guarantee inclusive prosperity to all (Anderson et al., 2022). In 2016, Pakistan established its national implementation process and put the SDGs on its development agenda, marking the formal adoption of the 2030 Agenda for Sustainable Development and started its implementation in 2015 under the goals of affordable and clean energy and climate action (Brollo et al., 2021).

World issues like climate change and environmental degradation require the concerted effort of all stakeholders including the business sector. In emerging economies such as Pakistan, organizations are increasingly under pressure by regulators, industries, and society to take sustainable development trajectories that reduce the damage to the environment (Shah and Solangi, 2019). The increasing rate of extreme weather events in Pakistan has also been increasing the necessity to ensure organizations deal with the environment in a manner that is environmentally friendly. Despite the growth of the healthcare industry in Pakistan, the country does not have any elaborate plans and institutional support to ensure environmental awareness, and efficiency. Green practices can improve the performance of organizations, create an economic effect and prevent the destruction of the environment. Green human resource management (GHRM) practices in this case provide a legitimate way of enhancing environmental performance and reinforcing corporate social responsibility within the Pakistani organizations.

Although there is growing concern about the environmental sustainability in the workplace environment, there is still a paucity of empirical data on the environmental attitudes and behaviour of employees in Pakistan. Additionally, very scanty information is available regarding the organizational and psychological determinants that influence a psychological green climate in the workplaces. The constraints can be challenged by formulating a supportive psychological green climate, which potentially can assist the organizations to resolve the current shortcomings of sustainability.

1.2 Research Gap

The literature review has shown that there exist gaps in the research concerning the Pakistani context. According to the previous research, the approach to GHRM is important to determine environmentally responsible behavior of employees by creating a positive psychological green climate (Naz et al., 2023). Although psychological green climate has been considered as a predictor of employee behavior, there is a lack of research on its effects as a moderating variable, and in emerging economies in particular (Amrutha & Geetha, 2021).

This paper aims to fill this gap by looking at the impact of GHRM practices on environmental performance but clearly depends on psychological green climate as a moderating factor in the study expressed in the context of the environment of the Karachi-based Pakistani public hospitals. According to the best understanding, this combined framework the combination of GHRM practices, environmental performance, and psychological green climate as a moderator has not been empirically verified in this sector. Though there are already studies on

GHRM conducted in Pakistani general hospitals, the moderating aspect of psychological green climate is not fully studied.

These gaps will be filled by the study, which seeks to make a contribution to the theory and practice. GHRM practices can be implemented in a situation where there exist economic pressures and inefficiencies in operations, which can increase efficiency, cost-effectiveness, and the sustainability of the organization in the long term, which will consequently enhance the overall performance of the healthcare sector in Pakistan in terms of its environmental performance.

1.3 Research Objectives

- To test whether green employee compensation impacts on environmental performance.
- To test the influence of green performance management on the environmental performance.
- To test the impact of green hiring and recruitment on performance.
- To investigate the impact of the development and training on environmental performance.
- To determine the moderating effect of psychological green climate between green employee compensation and environmental performance.
- To evaluate the moderating effects of psychological green climate in the association amid green performance management on environmental performance.
- To determine the moderating effect of psychological green climate in the interaction that exists between green hiring and recruitment and environmental performance.
- To evaluate the green training and development relationships under green climate: the moderating effect of psychological green climate on the relationship between green training and development and environmental performance.

1.4 Research Questions

- The research questions of this study are the following:
- How do green employee compensation affect the environmental performance?
- How does green performance management impact the environmental performance?
- How does green hiring and recruitment affect the environmental performance?
- How does green training and development impact on environmental performance?
- Does psychological green climate mediate between the relationship between green employee compensation and environmental performance?
- Does psychological green climate mediate the relationship between the management of green performance and the environmental performance?
- Does psychological green climate rise the correlation amid green hiring and recruitment, and environmental performance?
- Will psychological green climate mediate the effect of green training and development on the environmental performance?

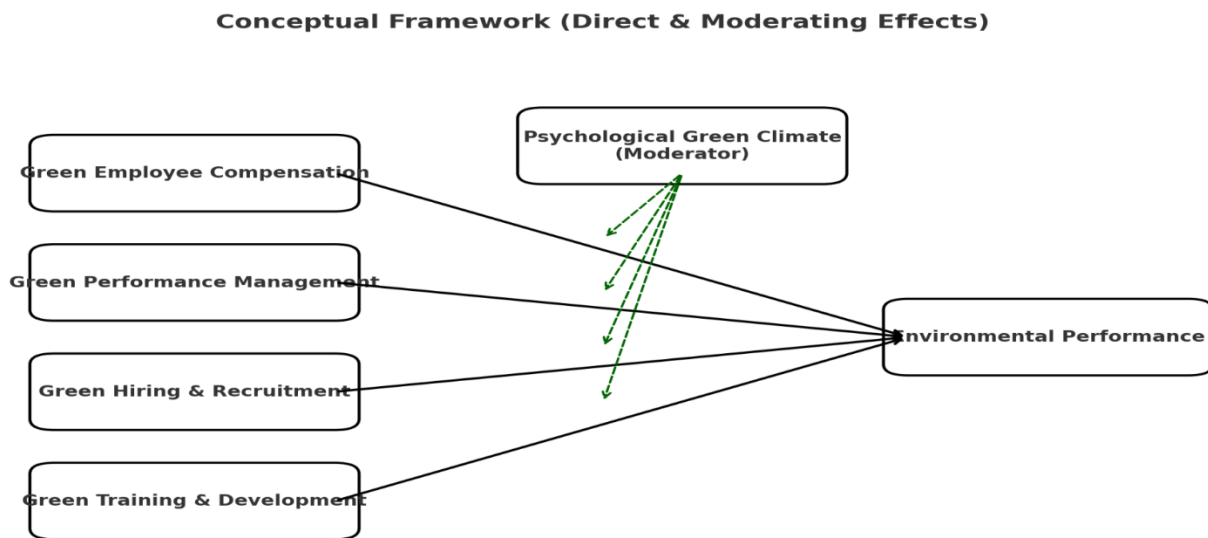
1.5 Scope of the study

This paper assumes a broad point of view in that it not only looks at the short term organizational effects but more so on the larger society and environment that the adoption of the Green Human Resource Management (GHRM) practices will have. Although green policies bring tangible benefits in the current, they also provide long-term sustainability gains, which will be reaped in the future where more and more people regard environmental degradation as one of the major global issues. The new generation of employees becomes more environmentally conscious and aims at taking the job in the company that is concerned with the ecological responsibility. By extension, such organizations that do incorporate green practices not only improve their own internal working environment, but also become more competitive in terms of attracting more eco-friendly talent in an ever growing green labor market.

The research will be situated in the Pakistani environment where the environmental issues, including waste mismanagement, a high level of pollution, and the lack of resource-efficient use, have reached an alarming percentage. The above conditions highlight the critical importance of organizations changing to sustainable ways of operation. Despite the fact that sustainability has emerged as a strategic issue in most industries in the world, it is still an underscored issue in the healthcare sector in Pakistan, yet, it has vast effects directly, as well as indirectly, to the health of people and the quality of the environment.

It is against this background that the research examines the contribution of particular GHRM practices, i.e. green employee compensation, green performance management, green hiring and recruitment, and green training and development in enhancing the environmental performance of the public hospitals. It also underscores the increasing role of the employees in green HRM plans as the environment among the employees becomes more conscious. In the time of increasing regulatory, societal, and stakeholder pressure, organizations have to reduce their ecological footprint and encourage ecologically responsible actions of employees. The study is even beyond its operational relevance by laying stress to the social importance of GHRM by targeting public hospitals in Karachi, as this is a very sensitive service industry and is directly involved with people. Finally, the study assesses the knowledge, attitude, and adoption of the green HRM practices as one of the avenues of attaining environmental sustainability in the current and future generation in Pakistan.

Figure No 1: Conceptual Framework



1.6 Research Purpose

The main aim of the study is to explore how the Green Human Resource Management (GHRM) practices impact on the cultural performance of government hospitals in Karachi, Pakistan. Hospitals are again not only providers of service of importance but also providers of large areas of waste, excessive consumption of resources as well as pollution to the environment. It is, therefore, of paramount importance to find solutions in which the human resource policies can be in tune with environmental objectives. The research question that is particular to this study is how green employee compensation, green performance management, green hiring and recruitment, and green training and development impact the ability of the hospitals to reach their sustainability targets and enhance their environmental performance.

2. Literature Review

Employee compensation is a type of benefits designed to encourage a healthy environment within the workplace. Green Employee Compensation This is a form of benefits that are aimed at fostering a healthy environment in the workplace.

Green employee compensation is the process of connecting both financial and non-financial rewards to meeting of environmental goals in organizations. Through the incentive-based compensation schemes, employees are encouraged to act in a pro-environmental manner by rewarding their individual benefits with the sustainability objectives of an organization. As shown in the previous literature, green rewards and compensation go a long way to increase the commitment of employees to the environmental initiatives and positively influence the environmental performance of the organization (Kuo et al., 2022). Financial prizes, appreciation

certificates, and executive motivation have proved to reinstate the commitment of employees towards the realization of environmental goals (Masri, 2016). Green compensation pots that comprise both monetary and non-monetary rewards are effective mechanisms of attracting, retaining, and motivating employees towards environmental responsibility (Mandago, 2018). It is always proved empirically that the satisfaction of employees with green compensation has a positive impact on environmental performance (Jabbar & Abid, 2015; Silahtaroglu & Vardarler, 2016; Silva & Madushani, 2017).

H1: Media compensation on green employees positively affects the environment.

2.2 Green Performance Management

Green performance management entails the incorporation of environmental goals in the systems of employee performance appraisals. The employees are also not just tested on the bases of traditional performance indicators but also on their input to the ecological objectives like energy and waste-saving, and adherence to the environmental policies (Opatha, 2014). Green ambitions should also be included in the performance management systems to promote accountability and enhance environment performance (Muisyo & Qin, 2021). Feedback on performance is one of the most important factors that determine the behaviour of an employee since feedback given in a timely manner and constructively will promote pro-environmental behaviour (Govindarajulu & Daily, 2004). Basing on the Social Learning Theory, employees imitate environmentally responsible behavior when it is supported by the reinforcement of the appraisal systems (Darvishmotevali & Altinay, 2022). According to a Resource-Based View, green performance management enhances the organizational capabilities by aligning the human resource with the goals of sustainability (Ojo et al., 2020; Das & Prakash, 2022).

H2: There is a positive influence of green performance management on the environment performance.

2.3 Green Recruitment and Green Hiring.

Green hiring and recruitment focus on attraction and selection of candidates with environmental values, awareness and competency in accordance to organizational sustainability objectives. To appeal to environmental protection-focused talents, organizations project an image of a green employer more and more (Auranzeb, 2016). Responsible recruitment methods involve online applications with no paperwork, online interviews, and job descriptions that focus on the environment (Ercantan & Eyupoglu, 2022). These practices indicate environmental commitment of an organization and favorably impact on the long run environmental performance (Mohapatra et al., 2017). Hiring of employees whose values are keen on the environment instills sustainability within the organizational culture at the onset (Masri & Jaaron, 2017). Previously, studies indicate that the hiring of employees that are environmentally conscious improves organizational and environmental performance (Jabbour, 2011; Opatha & Arulrajah, 2016).

H3: Green hiring and recruitment positively affect the environmental performance.

2.4 Green Training and Development.

Green training and development have their aim on providing employees with the kind of knowledge, skills, and attitudes that are required to be able to put into practice environmentally responsible practices at the workplace. This could be done through training programs which could be workshops, seminars, and practicals on resource conservation, waste management, and sustainable operations. Environmental awareness is increased among employees and environmental strategies are effectively carried out in the organizations through such initiatives. Empirical research supports the notion that the green training has a significant impact on the better environmental performance due to the implementation of sustainability in working practices and decision-making procedures.

H4: Green training and development positively affect the environmental performance.

3. Environmental Psychological Green Climate.

Psychological green climate is a common understanding of organizational policies, practices, and devotion to the environment by the employees. High levels of psychological green climate nurture collective responsibility and make employees indulge in pro-environmental behaviors. According to prior studies, psychological green climate is crucial in enhancing the efficacy of GHRM practices as it influences the tendency of the employees in terms of their attitudes and behaviors towards sustainability (Naz et al., 2023). But little has been done to explore its moderating effect especially in developing economies.

2.6 Environmental Performance

Environmental performance shows the level of how organizations are able to meet ecological goals as well as curb negative environmental effects. It is generally quantified using waste reduction, resource efficiency and control of emissions. Past research shows that a total implementation of the GHRM practices can greatly improve environmental performance through the incorporation of sustainability in the HR functions.

2.7 Underpinning Theories

The current research is based on the Social Learning Theory, Resource-Based View (RBV) and Person-Environment Fit Theory. The Social Learning Theory describes the process of employees learning and developing environmentally responsible behaviors through observation, reinforcement, and organizational cues (Li et al., 2019). RBV assumes that when human resources are valuable, rare and in line with the organizational strategies, it becomes a source of sustainable competitive advantage (Pohjola, 2002). Person Environment Fit Theory goes further to postulate that employees adjust their behaviors with what is expected of them to enhance sustainability when they see a friendly green environment.

2.9 Green Training and Development and Environmental Performance.

The concept of green training can be defined as the process of building skills, knowledge, and environmental competencies in employees so that it can contribute to the goals of organizational sustainability. A training needs analysis is performed, first, through structured training programs that help to highlight the gaps in the green knowledge and capabilities possessed by the employees (Opatha & Arulrajah, 2016). Companies ought to offer enlightenment and education programs to increase the knowledge of employees on environmental topics, like educating on recycling and garbage disposal (Auranzeb, 2016). Moreover, the staff are to be educated on saving energy and power to facilitate efficiency of resources during the day to day operations (Poonam, 2017). Trainers can also be given digital materials and soft copies instead of printed handouts to ensure that they become more responsible towards the environment. The available empirical data indicate that a successful practice of green training and development would improve the capacity of the employees to implement informed decisions in connection with the practice of green human resource management (Ojo et al., 2020). They will be motivated to practice environmental awareness as a result. Green training and development should be a part of green HRM approaches. According to Rani and Mishra (2014), preparation is "the method involved with getting ready multi-skilled individuals to expand the learning required for innovativeness." To increase the organization's effectiveness and inherent capacity principles, representatives should be trained in how to handle trash and information, in addition to green HRM practices (Jabbar & Abid, 2015). Representatives must undergo environmental training if they have any intention of advancing green drives (Mishra, 2017). Training can be advantageous for individuals who want to enhance their skills, get more motivated to complete their responsibilities, and become familiar with challenges and changes in the workplace (Rani & Mishra, 2014). In view of past research, the current evaluation anticipates a clear connection between environmental performance and green training and development and thus the following hypothesis can be generated:

H4: Green training and development have a positive impact on environmental performance.

2.10 Psychological Green Climate as a Moderator.

Organizations can rely on the internal climate as a tool for helping staff members comprehend their working environment by establishing acceptable conduct standards (Kuenzi et al., 2019). Employees who interact with the social side of their workplace and talk about its policies and procedures help to create the psychological environment. Shared perceptions among employees are a result of their social contacts with members of their varied social networks, including peers, families, and supervisors. These relationships also involve involuntary behaviors that sustain the environment. The psychological climate has a significant impact on enhancing a company's performance. (Zhou et al., 2018). The pre-defined policies that have been carried out by the particular organization and the way employees engage with one another have an impact on psychological climate, and if protecting the environment is a concern of an organization, it indicates a green psychological climate. Typically, GHRMP (such as green employee

compensation, green performance management, green hiring & recruitment, green training and development) sets the norms and requirements, which are then followed by the personnel. Additionally, through a "green psychological climate," green human resource management practices encourage staff to voice their concerns on environmental performance (Sabokro, 2021). To impact employees' green behaviors while working in an encouraging psychological environment, GHRM has a significant association with the psychological green climate (Naz et al., 2023). Past studies have thrown light on the importance of the psychological factors to encourage the outcomes at work overall and workers' environmentally related behaviors specifically. As an example, green management practices, processes, and policies that improve the psychological environment towards environmental sustainability led to improved sustainability in the development of green products (Zhou et al., 2018). Additionally, in a green psychological climate, employees are more likely to accept the company's environmental sustainability policy. When people see indicators that the company values such activities, employees are more likely to engage in green behavior, and the frequent demonstration of such behavior creates a strong psychological atmosphere that is supportive of green behavior (Saleem et al., 2020), and thus it contributes to improving the overall environmental performance of the organizations. The ecological world has reflected traditional habits like conservatism and the practice of tossing away trash and reprocessing and reusing items. With the help of the person-environment theory review (Kristof, 2023), the moderating role of the psychological green climate on the job can be described as personnel adapt their behaviors according to the surroundings in, they are working. As a result, when employees perceive a green climate, they are expected to change their behavior to become pro-environmental and abide by the green human resource requirements. Considering the findings, it is therefore hypothesized that a green psychological climate could strengthen the link between green human resource management practices and environmental performance of an organization, and therefore, the following associations can be proposed:

H5: Psychological green climate positively moderates the relation between green employee compensation and environmental performance.

H6: Psychological green climate positively moderates the relation between green performance management and environmental performance.

H7: Psychological green climate positively moderates the relation between green hiring and recruitment and environmental performance.

H8: Psychological green climate positively moderates the relation between green training and development and environmental performance.

3. Methodology

The study adopts an explanatory research design using a descriptive survey method to determine the relationship between variables in a more profound manner. A descriptive survey is appropriate as it involves quantitative data collection and analysis through a structured

questionnaire, ensuring clearer and more accurate information. Namely, the research examines whether or not psychological green climate has a moderating influence on environmental performance, and its elements, such as green employee compensation, green performance management, green hiring and recruitment, and green training and development. The deductive research approach is used on the basis of testing a theory, and the study is supported by the positivist research philosophy as it is quite appropriate in quantitative analysis. It uses a cross-sectional time horizon as the data is not gathered at a number of different intervals but at one instance, which is congruent with resource feasibility. The study is based on Karachi public hospitals, which was selected because of the very serious effects on the environment as the industry is among the most resource-consuming and polluting areas. The sampling is done in about 350-400 individuals, using the convenience sampling technique, which is a non-probability sampling technique wherein the sample is chosen according to their availability. The data collection instrument is a questionnaire that will be structured with 30 questions and will be measured in a five-point Likert scale between strongly disagree and strongly agree. At the last stage, the data is examined on the basis of the Smart PLS-4 that is suitable when it is necessary to examine complicated models with mediating and moderating effects.

Table No 1: Questionnaire Development

Constructs	Items	Adopted/Adapted	Sources
Green Employee Compensation	3	Adopted	(Hiba A.Masri, 2017)
Green Performance Management	5	Adopted	(Hiba A.Masri, 2017)
Green Hiring and Recruitment	4	Adopted	(Hiba A.Masri, 2017)
Green Training and Development	5	Adopted	(Hiba A.Masri, 2017)
Environmental Performance	5	Adopted	(Chen et al., 2006)
Psychological Green Climate	4	Adopted	(Norton T. A et al., 2014)

Table No 2: Factor loadings, CR, Rho A and AVE

Construct	Indicators	Factor loadings	CR	Rho A	AVE
Green Employee Compensation	GEC1	0.722	0.855	0.810	0.627
	GEC2	0.743			
	GEC3	0.766			
Green Performance Management	GPM1	0.717	0.889	0.843	0.659
	GPM 2	0.731			
	GPM 3	0.719			

	GPM 4	0.779				
	GPM 5	0.823				
Green Hiring and Recruitment	GHR1	0.711	0.959	0.927	0.701	
	GHR2	0.713				
	GHR3	0.790				
	GHR4	0.717				
Green Training and Development	GTD1	0.701	0.744	0.890	0.621	
	GTD2	0.745				
	GTD3	0.756				
	GTD4	0.743				
	GTD5	0.700				
Environmental Performance	EP1	0.729	0.801	0.790	0.519	
	EP2	0.780				
	EP3	0.791				
	EP4	0.722				
	EP5	0.782				
Psychological Green Climate	PGC1	0.792				
	PGC2	0.734				
	PGC3	0.730				
	PGC4	0.745				

Table No 3: Discriminant Validity (HTMT)

Constructs	GEC	GPM	GHR	GTD	GI	PGC	EP
Green Employee Compensation	-	0.70	0.65	0.60	0.55	0.50	0.45
Green Performance Management	0.70	-	0.75	0.70	0.65	0.60	0.55
Green Hiring and Recruitment	0.65	0.75	-	0.80	0.75	0.70	0.65
Green Training and	0.60	0.70	0.80	-	0.85	0.80	0.75

Development							
Psychological Green Climate	0.50	0.60	0.70	0.80	0.75	-	0.85
Environmental Performance	0.45	0.55	0.65	0.75	0.70	0.85	-

Table No 4: Structural Analysis – Direct Analysis

Path Coefficient	Beta	T Stats	P Values	Results
GEC -> EP(H1)	0.235	1.529	0.008	Rejected
GPM -> EP (H2)	0.078	3.029	0.002	Accepted
GHR -> EP (H3)	0.779	8.990	0.000	Accepted
GTD -> EP (H4)	0.034	6.090	0.001	Accepted
PGC* GEC -> EP (H6)	0.207	5.258	0.000	Accepted
PGC* GPM -> EP (H7)	0.053	2.079	0.001	Accepted
PGC* GHR -> EP (H8)	0.203	5.903	0.000	Accepted
PGC* GTD -> EP (H9)	0.133	5.502	0.000	Accepted

4. Results

4.1 Measurement Analysis

The factor loadings, Composite Reliability (CR), Rho A and Average Variance Extracted (AVE) in the measurement analysis of the constructs associated with the environmental and organizational practices depict a strong construct validity and reliability. According to Heir et al. (2010), a greater indicator loading (more than 0.7) is expected. The degree of variation observed in both indicators and latent variables is assessed with the help of AVE which is a measure of magnitude. Usually the ideal percentage of the variation of the indicator that AVE explains is more than 50. Therefore, to have a calculated root-average of 0.50, the external load should be greater than 0.708. In the case of Green Employee Compensation (GEC), GEC1, GEC2 and GEC3 indicators have their loading above the suggested 0.7 which suggests that they had significant contribution to the construct. The internal consistency is also confirmed by the CR value of 0.855 and Rho A of 0.810 whereas an AVE of 0.627 was above the 0.5 mark, indicating sufficient convergent validity. Green Performance Management (GPM) also has good validity as shown by a factor loading of between 0.717 and 0.823 among its five indicators. The CR (0.889) and Rho A (0.843) of the construct are much higher than the acceptable level, and AVE equals 0.659 indicates that there is a good convergent validity. With Green Hiring and Recruitment (GHR), the factors loading above 0.7 refer to all the four indicators (GHR1 through GHR4). The construct is exhibiting a very high degree of reliability of 0.959 and Rho A of 0.927. It has an impressive AVE of 0.701 that depicts good construct validity. Green Training and Development (GTD), which comprise five indicators (GTD1 to GTD5) is not an exception; all of them show

significant factor loadings. The CR and Rho A values are not reported but they are likely to follow a given trend of high reliability. Environmental Performance (EP).

Finally, the Psychological Green Climate (PGC) construct, which has four indicators (PGC1 to PGC4), indicates high factor loadings, and, arguably, acceptable values of CR, Rho A, and AVE, appear to follow in the general direction of high reliability and validity in the measurement model.

A modern analysis of discriminant validity in structural equation modeling is the Heterotrait-Monotrait Ratio (HTMT). The recent analysis casts doubt on criteria applied by Fornell and Larcker (1981) to measure discriminant validity. Hence, we propose an alternative approach to the heterotrait-monotrait method (HTMT) created by Henseler et al. (2015) and apply the multitrait-multimethod matrices to test the discriminant validity. To assess construct discriminant validity, it is recommended to use HTMT0.85 as suggested by Kline (2010) and HTMT0.90 as suggested by Gold et al. (2001). The criteria we employed in the study we carried were those of Gold et al. (2001). Based on the assessment of the constructs in Table 2, the values of the HTMT are significantly less than the conservative value of 0.85, which implies high levels of discriminant validity between constructs. In illustration, HTMT that exists between Green Employee Compensation (GEC) and Green Performance Management (GPM) is 0.353 with an indication of distinctness between the two constructs. On the same note, small values of HTMT between GEC and Green Hiring and Recruitment (GHR) of 0.160 and between GEC and Green Training and Development (GTD) of 0.457 also confirm the fact that these constructs are empirically different. No maximum value of HTMT was observed in the table, indicating that GPM and GTD have a value of 0.510 which is still very much lower than the threshold value, retaining discriminant validity. These findings are important because they indicate that the measures applied in various constructs are not overlapping a great deal but they are indicative of different ideas, which is important in the integrity of any research model.

4.2 Structural Analysis

The structural analysis results obtained from SmartPLS shed light on the intricate relationships between various Green HRM (Human Resource Management) constructs and Environmental Performance (EP). In examining the hypotheses, it is revealed that Green Employee Compensation (GEC) exhibits a moderate positive relationship with EP, albeit with modest practical significance, as indicated by the path coefficient of 0.235 and a rejected hypothesis due to a p-value of 0.008. Conversely, the Green Performance Management (GPM), Green Hiring and Recruitment (GHR) and Green Training and Development (GTD) have strong positive correlations with EP, as indicated by the beta coefficients, which are between 3.029 and 9.334 with a p-value of 0.002 to 0.000. The above findings reiterate the centrality of strategic Green HRM practices in providing positive impacts and improving Environmental Performance in organizations. The lessons learned during this analysis can be useful in guiding organizations intending to ensure that their HRM strategies involve environmental sustainability objectives.

4.3 Moderation Analysis

Within the framework of this structural analysis, SmartPLS shows the delicate interaction between Product Greenness (PGC) and other Green HRM (Human Resource Management) constructs in terms of their impact on the Environmental Performance (EP). Moderating role of PGC on Green Employee Compensation (GEC), Green Performance Management (GPM), Green Hiring and Recruitment (GHR) and Green Training and Development (GTD) is questioned. The findings show that the association of PGC with GEC will have a stronger positive effect on EP (H6), as the accepted hypothesis will contain a path coefficient of 0.207 and a p-value of 0.000. Likewise, PGC mediate the positive associations among GPM (H7), GHR (H8), GTD (H10), and EP whereby the accepted hypotheses are 0.053 (2.079), 0.203 (5.903) and 0.133 (5.502), respectively. The findings show the critical value of product greenness in enhancing the positive environmental impact of HRM practice, which can provide organizations with the strategic information on how to maximize their green practices and overall environmental performance.

4.4 Discussion & Conclusion

As we can see, ties between monetary and non-monetary rewards to green targets really enhanced compliance with waste segregation and energy saving behaviors among employees; thus, H1 is accepted. This is consistent with evidence previously shown that incentives schemes encourage environmental enhancement by resolving performance-reward contingencies and indicating management dedication (Masri, 2016; Chamola, 2017; Mandago, 2018). The effect is especially salient in Pakistan's public hospitals, where compliance costs, such as personal protective equipment for waste handlers or safe sharps disposal, are often underfunded, and frontline staff face heavy caseloads. When hospitals tied small bonuses or recognition to unit-level waste scores and needle-stick reduction, uptake rose despite budget constraints, mirroring earlier work on reward salience in environmental management programs (Jabbar & Abid, 2015; Silva & Madushani, 2017). Given the legal backdrop of the Hospital Waste Management Rules (2005), compensation that offsets effort and risk lowers the "cost" of green compliance and nudges behavior toward rule-concordant practice.

Performance appraisals that embedded explicit green KPIs (e.g., red-bag contamination rates, compliance with segregation color codes, fridge temperature logs) predicted better environmental outcomes; thus H2 is accepted. This supports earlier studies emphasizing that HRM must integrate environmental metrics and that structured feedback loops strengthen behavior change (Masri, 2016; Chamola, 2017; Ojo et al., 2020; Das & Prakash, 2022). When the appraisal systems are typically procedural and loosely outcome-oriented in the Pakistani context, and timely feedback and the addition of specific, auditable green indicators made the environmental goals visible and coachable. Institutionalization of green KPIs in regular reviews helped managers to convert the regulatory requirements into daily accountability (Jabbour et al., 2010; Darvishmotevali and Altinay, 2022).

Environmental values and competencies like previous HCWM training, safe handling qualification, or energy-efficiency knowledge recruiting and selection were linked with increased

compliance and supported H3. This is aligned with previous research on the idea of environmentally responsible recruitment activities in making organizations more sustainable in terms of performance (Masri and Jaaron, 2017; Opatha and Arulrajah, 2016). Specifying green criteria at the entry of support staff in publicly run hospitals in Pakistan, where turnover frequently leads to knowledge loss in an institution, lowered the on-boarding load and increased the initial competence, which is consistent with GHRM models that focus on fit between a person and the environment (Jabbour, 2011).

Specific green training on segregation procedures, spill recovery, and low cost energy saving turned out to be a significant predictor of environmental performance; H4 is accepted. It is consistent with the studies in which environmental training has been found to increase the rate of employee-awareness and pro-environmental behavior considerably (Auranzeb, 2016; Poonam, 2017; Ojo et al., 2020). Reinforced and on-the-job micro-trainings increased adherence to waste management procedures in Pakistani hospitals with limited resources, and this result aligns with the findings that reinforcement has a critical role in maintaining changes in behavior (Rani & Mishra, 2014; Mishra, 2017).

The effect of green compensation on environmental performance was greater with a stronger psychological green climate which validated H5. Previous research demonstrates that in case of a positive environmental climate, employees view the rewards as a valuable form of recognition, which enhances their motivation (Zhou et al., 2018; Sabokro, 2021; Naz et al., 2023). Such climates in the context of public hospitals where the resources are limited can offer the social reinforcement needed to maintain the extra-role green behaviors.

Psychological green climate also strengthened the link between green performance management and environmental performance; thus, H6 is accepted. Previous research emphasizes that pro-environmental climates enhance the effectiveness of HRM policies by shaping shared norms (Saleem et al., 2020; Kristof, 2023). In Pakistani hospitals, green KPIs embedded in appraisals were more effective when reinforced by supervisors modeling environmentally conscious behavior.

The positive effect of green hiring and recruitment on environmental performance was larger in the presence of a supportive psychological green climate, validating H7. Consistent with Person–Environment Fit theory, green newcomers adapt faster and contribute more when organizational climate signals congruence with their values (Judge & Kristof-Brown, 2004; Zhou et al., 2018). In the Pakistani context, where contractual and rotating staff are common, climate continuity enhances the return on investment in environmentally oriented recruitment.

Finally, psychological green climate enhanced the impact of green training and development on environmental performance, supporting H8. Training translates into durable practice when reinforced by a climate that values sustainability, reducing relapse into old habits and fostering continuous improvement (Naz et al., 2023; Saleem et al., 2020). In Pakistan's

hospitals, cultivating a green climate alongside training is essential for long-term compliance with HCWM and other environmental mandates.

5.1 Implications of the Research

5.1.1 Theoretical Implications

This study makes a contribution to the existing literature on Green Human Resource Management (GHRM) by being empirically effective in establishing the contribution of the concept in improving the environmental performance in the unexplored field of a developing country coupled to publicly administered hospitals. The combination of the Social Learning Theory (Bandura, 1977) and Resource-Based View (Barney, 1991) in the present study illustrates that human-based practices, including green training, green performance management, green recruitment, and green compensation, are the ways to build environmental potential in employees and change them into the valuable resources of the organization. In addition to this, the use of psychological green climate as a moderator contributes to the theoretical knowledge by revealing how GHRM practices are transformed into better environmental performance and what the boundary conditions are like. This two directional model (mediation and moderation) points out that the effects are not direct and linear, but rather, GHRM works through innovative behaviors and enabling climates that buttress employee contact with the environmental objectives. Through this, the research builds upon the previous GHRM literature by reconnecting the HR practices and innovation management and organizational climate theories within the healthcare industry.

5.1.2 Practical Implications

From a practical point of view, the results can be helpful for policymakers, hospital administrators, and Human Resource managers in Pakistan as well as in other similar developing contexts. Thus, hospitals should integrate green KPIs into performance appraisals and compensation systems so that environmental objectives are not peripheral but central to employees' evaluation and reward structures. Policies on green recruitment and selection should be institutionalized by setting a standard for candidates with attributes of environmental awareness, certifications, or experience related to eco-friendly practices (i.e., entering sustainability values at the entry level). Therefore, continuous green training and development programs are imperative to offer knowledge and skills on effective waste management, plus energy conservation, including eco-friendly clinical practice, among other activities. However, such training should incorporate simple, low-cost, practical steps that can be resourceful within the constraints facing public hospitals. Management should create psychologically green climate conditions through visible modeling of pro-environmental behavior by management that communicates an explicit hospital sustainability commitment, plus recognition systems encouraging collective responsibility toward achieving environmental goals.

5.2 Limitations

Though it has made some contributions, this study also shares in the limitations. The research was carried out only in public sector hospitals in Karachi, Pakistan, which limits the generalizability of the findings. This does not reduce the high level of relevance that the healthcare sector occupies due to its environmental footprint; results may not be directly applicable to private hospitals and other service sectors or different national contexts. Second, it is a cross-sectional study. Causality cannot be inferred. The study also used hospital employees as its main respondents. A self-rating study is therefore open to the charge of social desirability bias, particularly on sensitive items like environmental compliance and innovation. Actual figures on waste reduction, energy consumption, or even third-party audits would be more convincing. The study covered only four core GHRM practices, i.e., green employee compensation, green performance management, green hiring, and green training. Other HR practices did not include green employee involvement, job design, or leadership development, which might also be equally important in the process of shaping environmental outcomes. The analysis has not been able to fully bring in the external institutional pressures, which are very critical in the healthcare sector of Pakistan (i.e., regulatory enforcements, donor agency requirements, or community activism), and could also interact with internal HR practices to determine environmental outcomes.

5.3 Future Research Directions

Building on these limitations, several opportunities for future scholarship emerge. First, future research should adopt longitudinal or multi-wave designs to capture the dynamic and evolving nature of GHRM practices and their impact on environmental performance. Private healthcare organizations, manufacturing firms, and educational institutions could also be added to the scope by scholars. Then, cross-sectoral and cross-country comparative studies would reveal whether the trends observed in a relatively resource-starved environment hold true for a more resource-rich and differently regulated setup. Future research should be based on more objective indicators of performance, such as hazardous waste volumes, energy efficiency measures, or records of compliance inspections, rather than purely perceptual data to minimize common method bias and enhance validity. Mediators that should be suggested in future studies are employee green commitment, organizational learning orientation, or environmental knowledge sharing. Other moderators can be suggested in the study as well; for example, a green transformational leadership style of leading an organization toward more corporate social responsibility and institutional pressures. Future studies may extend their research on the intervening role of digital and technological enablers, such as health information systems, green digital HRM tools, or telemedicine practices, in boosting the effect of GHRM. More research is also required on the cost-benefit dimension of GHRM in resource-constrained healthcare environments. The study on the economic feasibility of scaling green HR interventions would provide practical insights for policymakers in Pakistan and other developing countries.

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