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

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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

The United Nations Sustainable Development Goals are a set of 17 goals and 169 targets that world leaders approved in 2015 to guide the globe on sustainable development up to 2030. The SDGs target ending poverty, protecting the planet, and ensuring prosperity for all people

(Anderson, et al., 2022). In 2016, Pakistan initiated the process for its implementation in its national development agenda after signing on to the 2030 Agenda for Sustainable Development in 2015, whereby it is being executed under affordable and clean energy and climate action through: The Sustainable Development Policy Institute (Brollo et al., 2021). It is global problems such as climate change or environmental deterioration that require all parties' attention – including businesses' immediate action. Particularly in developing countries like Pakistan, firms face mounting pressure from industries to pursue a sustainable trajectory of development that avoids any harm to the environment (Shah & Solangi, 2019). Extreme weather is increasingly common in Pakistan. Though the medical sector of Pakistan grows, it does not have enough stable plans and means to raise knowledge about how to support and push environmental efficiency. Green practice adoption can enhance firm performance on a larger scale as well as create economic benefits and reduce environmental harm. Firms in Pakistan may raise their environmental output as well as their social responsibility by focusing on green HRM policies. Increasing awareness of the importance of environmental sustainability in work environments has been observed; however, information remains scanty about employee attitudes and behaviors towards environmental sustainability in Pakistan, and about the factors that influence the development of a psychological green climate at workplaces. Thus, current problems in this area can be dealt with by a psychological green climate.

1.2 Research Gap

After research and a survey, it has been found that there are gaps in the research when it comes to the Pakistani industry. Having a look at the psychological green climate, GHRM plays a significant role in the psychological green climate, since it shapes employees' green actions when they are working in a supportive psychological environment. (Naz, S et al., 2023). In prior research, psychological green climate is used to influence the behaviors of the employees, but a lack of research has been carried out focusing on the psychological green climate as a moderator (Amrutha & Geetha, 2021). In this study, we will define the effects of green HRM practices, psychological green climate on the environmental performance of the public hospitals in Karachi, Pakistan.

This framework with a novel moderator has not been used in this sector, though GHRM research is found in public hospitals in Pakistan. Finding these gaps and working on them leads to improving the current situation. Our economy is not booming, our industries are not as functional as they should be, implementing GHRM practices can bring the changes we need in this industry, such as better efficiency, cost effectiveness, and sustainability..

1.3 Research Objectives

- To examine the effect of green employee compensation on environmental performance.
- To examine the effect of green performance management on environmental performance.
- To examine the effect of green hiring and recruitment on environmental performance.
- To examine the effect of green training and development on environmental performance.

- To assess the moderating role of psychological green climate in the relationship between green employee compensation and environmental performance.
- To assess the moderating role of psychological green climate in the relationship between green performance management and environmental performance.
- To assess the moderating role of psychological green climate in the relationship between green hiring and recruitment and environmental performance.
- To assess the moderating role of psychological green climate in the relationship between green training and development and environmental performance..

1.4 Research Questions

- What is the effect of green employee compensation on environmental performance?
- What is the effect of green performance management on environmental performance?
- What is the effect of green hiring and recruitment on environmental performance?
- What is the effect of green training and development on environmental performance?
- Does psychological green climate moderate the relationship between green employee compensation and environmental performance?
- Does psychological green climate moderate the relationship between green performance management and environmental performance?
- Does psychological green climate moderate the relationship between green hiring and recruitment and environmental performance?
- Does psychological green climate moderate the relationship between green training and development and environmental performance?

1.5 Scope of the study

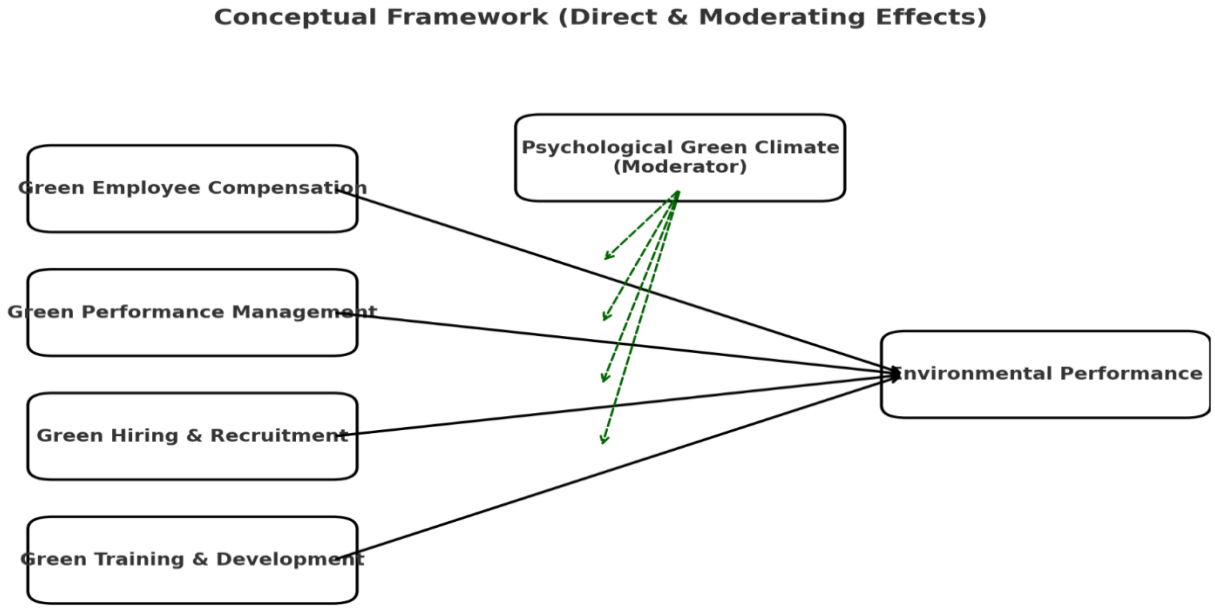
The view of this study shall cover the immediate organizational results accruing from the application of Green Human Resource Management (GHRM) practices and societal and environmental effects. As green policies produce positivity in the present, they also generate benefits that will be realized by future generations, who increasingly identify environmental degradation as a mounting problem. The new generation increasingly displays great sensitivity toward ecological matters. They are actively seeking opportunities to work with organizations that emphasize concern for environmental issues. Firms that have green practices improve their organizational conditions and, at the same time, differentiate themselves when competing for new, environmentally mindful employees amongst increasingly green labor markets.

It moves with a concentrated structure of GHRM practices and their application in the context of Pakistan. Waste mismanagement, high pollution rates, and unjudicious use of resources have put Pakistan in an alarming state regarding environmental degradation. Thus, it requires challenges along with the need to make organizations operate sustainability. Industries across the globe have been increasingly embedding sustainability into their operations; however, this has come at a very low priority when it comes to the healthcare industry in Pakistan, since it possesses direct and indirect influences on public health as well as environmental outcomes.

It is in this very context that an attempt was made to analyze how green HRM practices-green employee compensation, green performance management, green hiring and recruitment,

and green training and development could lead to better environmental performance of public hospitals. The study will also show the growing trend of employees' involvement in green HRM as they become more conscious about environmental issues. In today's world, organizations are being increasingly pressured to act on the environmental agenda, minimize their ecological footprint, and foster eco-friendly behavior among the workforce. Locating the study within public hospitals in Karachi gives it a dimension whereby, apart from its operational relevance, green HRM has social relevance in one of those critical sectors where direct service is rendered to the community. Ultimately, this study brings to the fore an assessment of the meaning, acceptance, and assimilation of 'green' HRM practice toward achieving environmental sustainability for the present generation as well as generations yet unborn in Pakistan.

Figure No 1: Conceptual Framework



1.6 Research Purpose

The main objective of this study is to determine the influence of Green Human Resource Management (GHRM) practices on the environmental performance of public sector hospitals in Karachi, Pakistan. Hospitals are not only the major service providers but also extensively contribute towards environmental waste, resource consumption, and pollution. Thus, finding strategies through which human resource policies can be aligned with environmental objectives is highly significant. It will specifically find out how practices such as green employee compensation, green performance management, green hiring and recruitment, and green training and development practices influence the capability of hospitals toward sustainability goal achievements.

2. Literature Review

2.1 Green Employee Compensation

Green employee compensation means tying reward and salary plans to the accomplishment of any set of environmental goals within organizations. Through an incentive-based compensation system, employees are motivated to adopt pro-environmental behaviors because such systems tie their personal benefits to the achievement of sustainability objectives in organizations. Studies have revealed that the implementation of green rewards and green compensation motivates employees to a greater extent toward environmentally friendly initiatives and improves environmental performance (Kuo et al., 2022).

2.2 Green Performance Management

Green performance management refers to the infusion of environmental aspects into employees' performance appraisal systems. It evaluates workers not only on standard measures of output but the steps they are taking toward the realization of ecological goals, such as energy conservation or waste minimization. According to Muisyo & Qin (2021), the infusion of environmental targets into performance management systems improves organizational environmental performance and creates accountability.

2.3 Green Hiring and Recruitment

Green hiring refers to the selection of individuals with environmental values and skills who may wish to contribute to the sustainability plan of an organization. Apart from competencies, it evaluates sensitivity and willingness toward green practices in applicants. Technically, evidence has proven that organizations that inculcate more green hiring enhance positive support toward sustaining performance because ecological awareness is inculcated right from the beginning of the recruitment process.

2.4 Green Training and Development

Green training and development impart to workers the competence, information, and disposition required for the execution of green actions at work. Sensitization may be carried out through workshops or seminars, or even practical exercises on how to conserve resources, as well as on waste disposal and sustainability in business operations. Such programs go a long way in bettering the implementation of environmental strategies in an organization..

2.5 Psychological Green Climate

A psychological green climate refers to the perception shared by workers regarding how their organization is committed to sustaining the environment. Thus, in a general actual green climate, collective responsibility encourages staff to parallel behavior about pro-environmental behaviors. This brings out the fact that it is actually the green climate that mediates any relationship between green HRM practices and environmental performance, which is any such claim-that places it at the center of organizational sustainability.

2.6 Environmental Performance

Environmental performance is the degree to which an organization achieves its ecological objectives and mitigates adverse environmental impacts. Carbon emissions often represent this performance, waste output, and the efficiency of resources used by the organization. It has been empirically proven that the complete adoption of GHRM practices improves environmental performance because it integrates sustainability into all HR functions.

2.7 Underpinning Theories

2.7.1 Theoretical Background

This study adopted the Social Learning Theory and the Resource-Based View Theory. Social learning theory defines SLT as "how environmental and cognitive factors interplay in the determination of human learning and behavior." (Li et al., 2019) The resource-based view theory postulates that resources are valuable if they have the capacity to help a firm develop and implement productivity as well as effectiveness plans (Pohjola, 2002). When integrated, these two theories indicate that human-resource-focused sensitization, accompanied by incentives and other motivation factors, can initiate firms tapping their distinctive resources through learning environmental best practices to offer them a sustainable competitive advantage.

The Person-Environment theory also becomes relevant to this study, which argues that as individuals adjust their behaviors to fit by work environments, by the time employees perceive a green workplace environment, they should adjust their behaviors to be pro-environmental. In simple terms, the adjustment of behavior based on the perception of any green workplace environment shall instill discipline in employees toward green human resource requirements.

2.7.2 Green Employee Compensation and Environmental Performance

Green rewards are the major propelling forces behind the environmental management programs of an organization. In the current business world, many organizations implement green reward schemes to motivate and inspire employees toward eco-friendly behavior and activities (Ahmad, 2015). In a research study, it was found that appreciation through letters and awards, both for employees and encouragement from supervisors, would increase worker commitment toward achieving green goals set for them (Masri, 2016). Another paper has revealed that green compensation is the best way to encourage staff as they improve their environmental performance (Chamola, 2017). Green compensation defines a plan encompassing monetary and non-monetary benefits designed to attract, retain, and motivate employees in support of ecological goals (Mandago, 2018). As per Ahmad (2015), the representative compensation includes pay for capability, pay for social and mental abilities, pay for manageability innovation information, pay for supportability conduct information, and pay for every one of the four. Workers were rewarded for taking part in harmless to the ecosystem exercises; by and large, their obligation to ecological management programs is upgraded.

The degree of the representative's fulfillment with the green costs and their commitment towards the ecological execution is the best sign of viability through green works (Jabbar & Abid, 2015; Silahtaroglu & Vardarler, 2016; Silva & Madushani, 2017). Previous studies have found that employee compensation concerning activity with environmental responsibility increased employees' commitment to environmental sustainability programs (Kuo, Y. K et al., 2022). As noted by Ahmad & Nisar (2015), workers' awareness levels can be raised by paying them to the greatest extent and motivating them to work diligently towards accomplishing the goals set for them by the organization. Firms will also be able to promote green practices as well as innovations to their products and processes through a good form of compensation system (Govindarajulu Daily, 2004). Green motivations support the most fun and serious activities that essentially help with environmental performance. This is how green rewards and compensation affect the environment while focusing on work performance. (Renwick et al., 2013). Businesses may have willing representatives test green products if incentives and rewards based on environmental performance are offered. To make an employee's green compensation related directly to the organization's environmental performance is justified based on all of the above, i.e.

H1: Green employee compensation has a positive impact on environmental performance.

2.7 Green Performance Management and Environmental Performance

Green performance management is basically the appraisal of employee performance against certain set green objectives and criteria. Green goals feedback is included in it (Opatha, 2014). It has to be linked by HRM between the performance management system and environmental performance using green grading standards to fulfill environmental objectives with proper appraisals (Masri, 2016). According to one study, green-performance pay is the best way to motivate staff to perform pro-environmental behavior. At the organizational level, monitoring production and utilization of resources by strategies across the organization is are vital element for sustained ecological achievements; hence, there is a need for a theoretical framework on practical enhancement that controls and monitors asset formation and usage for optimal performance (Ojo et al., 2020; Das & Prakash, 2022). The arrangements of any green HR executive should contain the green execution board. Companies judge each outcome factor according to its impact on the ecological environment. For administrators, it is important to be accountable for their organization's environmental execution, which incorporates green execution the board having components like the implementation of environmental responsibility, environmental accidents, and knowledge of environmental policies that can have an impact on the environment of organization.

Since they provide immediate feedback to employees on their ecological performance, appraisal systems are an essential component of green HRM. Since this training incorporates a different component for improvement on greening in the exhibition criticism conversations, green execution executives have a significant impact in accomplishing natural execution. It provides a method that appraises workers' job performance on green-related criteria. The usual

impacts on ecology are similar to the employees' productivity. Govindarajulu and Daily (2004) state that timely constructive feedback about behavior delivered to employees will motivate them in the direction of preferred results. According to one review, individuals feel compelled to adjust their behavior once exposed to key achievement models that are represented by green performance management (Darvishmotevali & Altinay, 2022). However, based on a review of previous literature and relating the resource-based view theory and social learning theory with the above relationship, the direct effect of green performance management on the environmental performance of an organization can be seen; hence, the following hypothesis is suggested:

H2: Green performance management has a positive impact on environmental performance.

2.8 Green Hiring and Recruitment and Environmental Performance.

Individuals wish to work for organizations that take care of the environment and are responsible for their social activities. This is the reason most MNCs show themselves as green employers to attract highly qualified employees who are conscious about green activities and want their employer to be the same (Auranzeb, 2016). Environmental aspects are kept in view while recruitment is done under green recruitment. Job specifications mostly include the requirement of having green skills from applicants. Online applications for jobs must be allowed as a part of the green recruitment and selection process, in which environmentally concerned people are recruited without any paper submission or paperwork to be filled out (Ercantan & Eyupoglu, 2022). Interviews may be conducted online or via phone. Setting up a green enlisting system yields dual aspects: it can easily demonstrate to employees how green corporate activities, such as reducing waste and damage to the environment, apply, and it assists in work execution in long-term execution assessments. Thus, natural execution gets better (Mohapatra et al., 2017). The main ingredients of green HRM practices are commitment and recruitment to going green.

Green HRM should be infused into an organization at its stages of recruitment and selection. The actual meaning is brought about by recruitment and business activities. "Green recruitment" refers to a company's intention to involve other individuals who will assist in environmental performance by attracting and retaining people who have its attributes (Masri & Jaaron, 2017). There is little discussion in the literature today about the selection of employees who are environmentally conscious in general, not to mention the focus particularly on choosing employees who are technically savvy and knowledgeable about environmental performance programs (Jabbour, 2011). However, it is. Green recruitment highlights a corporation's organic presentation, which also has an impact on how appealing partnerships find internal applicants. Firms that seek employees with environmental attitudes will pose the applicants questions that are related to the environment during the interview process and choose applicants who have strong environmental principles as part of their daily lives (Opatha & Arulrajah, 2016), therefore increasing both future commercial performance and future environmental performance of the organization. Through hiring and keeping individuals with characteristics similar to one another, green recruitment demonstrates the organization's willingness to work hand in hand toward

better environmental performance. Therefore, this paper posits that the application of green recruitment and selection practices will heighten environmental performance:

H3: Green hiring and recruitment have a positive impact on environmental performance.

2.9 Green Training and Development and Environmental Performance.

Green training is educating employees about green skills and competences. Through training programmers' training, needs analysis is performed to determine the workforce's green training and development requirements (Opatha & Arulrajah, 2016). Education and awareness training should be provided to employees in order to increase their comprehension and awareness. For instance, environmental training on recycling and trash management are two examples (Auranzeb, 2016). Employees should be taught how to preserve energy and electricity (Poonam, 2017). Trainers should give soft copies instead of printed paper handouts as material. According to Ojo et al. (2020), appropriate training and development have a significant impact on employees' ability to make knowledgeable decisions on green HRM practices. 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. Specifically, the study investigates the moderating effect of psychological green climate on environmental performance and its components, including green employee compensation, green performance management, green hiring and recruitment, and green training and development.

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			

A deductive research approach, based on theory testing, is applied, while the positivist research philosophy underpins the study, given its suitability for quantitative analysis. A cross-sectional time horizon is used, as the data is collected at one point in time rather than multiple intervals, which aligns with resource feasibility. The research focuses on public hospitals in Karachi, a sector chosen due to its significant environmental impact as one of the most resource-intensive and polluting industries. Data is collected from approximately 350–400 individuals using convenience sampling, a non-probability method where participants are selected based on their accessibility. The instrument for data collection is a structured questionnaire comprising 30 items, measured using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." Finally, the data is analyzed using Smart PLS-4, which is appropriate for testing complex models involving mediating and moderating effects.

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 Development	0.60	0.70	0.80	-	0.85	0.80	0.75
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

In the measurement analysis of the constructs related to environmental and organizational practices, the factor loadings, Composite Reliability (CR), Rho A, and Average Variance

Extracted (AVE) indicate robust construct validity and reliability. Heir et al. (2010) state that indicator loadings should be greater than the 0.7 threshold. The amount of variation seen in both indicators and latent variables is measured using AVE, a quantitative metric. The ideal percentage of the indicator's variation that AVE explains is frequently greater than 50%. Thus, the external load needs to be more than 0.708 for it to have a calculated root-average value of 0.50. For Green Employee Compensation (GEC), indicators GEC1, GEC2, and GEC3 show factor loadings above the recommended threshold of 0.7, indicating significant contributions to the construct. The CR value of 0.855 and Rho A of 0.810 further affirm the internal consistency, while an AVE of 0.627 exceeds the 0.5 benchmark, suggesting adequate convergent validity. Similarly, Green Performance Management (GPM) demonstrates strong validity with factor loadings ranging from 0.717 to 0.823 across its five indicators. The construct's CR (0.889) and Rho A (0.843) are well above acceptable levels, and an AVE of 0.659 indicates good convergent validity. For Green Hiring and Recruitment (GHR), all four indicators (GHR1 to GHR4) have factor loadings above 0.7. The construct shows exceptional reliability with a CR of 0.959 and Rho A of 0.927. Its AVE of 0.701 is notably high, reflecting strong construct validity. Green Training and Development (GTD), with five indicators (GTD1 to GTD5), follows this trend, each demonstrating substantial factor loadings. The CR and Rho A values are not provided but are expected to align with the observed pattern of strong reliability. Environmental Performance (EP)

Lastly, the Psychological Green Climate (PGC) construct, with four indicators (PGC1 to PGC4), shows strong factor loadings and, presumably, satisfactory values for CR, Rho A, and AVE, aligning with the overall trend of high reliability and validity in the measurement model.

The Heterotrait-Monotrait Ratio (HTMT) is a contemporary approach to assessing discriminant validity in structural equation modeling. Recent analysis brings into question the criteria used by Fornell and Larcker (1981) to measure discriminant validity. Therefore, we suggest a different strategy that builds on the heterotrait-monotrait technique (HTMT) developed by Henseler et al. (2015) and uses the multitrait-multimethod matrices to examine discriminant validity. For evaluating construct discriminant validity, the recommended HTMT criteria are HTMT0.85, as proposed by Kline (2010), and HTMT0.90, as presented by Gold et al. (2001). We used Gold et al. (2001) criteria in the study we conducted. Evaluating the constructs in Table 2, the HTMT values are well below the conservative threshold of 0.85, indicating strong discriminant validity among constructs. For example, the HTMT value between Green Employee Compensation (GEC) and Green Performance Management (GPM) is 0.353, suggesting that these constructs are distinct. Similarly, low HTMT values between GEC and Green Hiring and Recruitment (GHR) at 0.160, and between GEC and Green Training and Development (GTD) at 0.457, further confirm that these constructs are empirically different. The highest HTMT value in the table is between GPM and GTD at 0.510, which is still significantly lower than the threshold, maintaining discriminant validity. These results are crucial as they confirm that the measures used for different constructs do not overlap significantly and are measuring distinct concepts, which is vital for 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. On the other hand, Green Performance Management (GPM), Green Hiring and Recruitment (GHR), and Green Training and Development (GTD) display robust positive associations with EP, supported by significant beta values, ranging from 3.029 to 9.334, and low p-values of 0.002 to 0.000. These findings underscore the pivotal role of strategic Green HRM practices in positively influencing and enhancing organizational Environmental Performance. The insights gleaned from this analysis offer valuable guidance for organizations seeking to align their HRM strategies with environmental sustainability goals.

4.3 Moderation Analysis

In this structural analysis, SmartPLS reveals the nuanced interplay between Product Greenness (PGC) and various Green HRM (Human Resource Management) constructs in shaping Environmental Performance (EP). The moderating effect of PGC on Green Employee Compensation (GEC), Green Performance Management (GPM), Green Hiring and Recruitment (GHR), and Green Training and Development (GTD) is scrutinized. The results indicate that the interaction between PGC and GEC significantly enhances the positive impact on EP (H6), as reflected in the accepted hypothesis with a path coefficient of 0.207 and a p-value of 0.000. Similarly, PGC moderates the positive relationships between GPM (H7), GHR (H8), GTD (H10), and EP, with accepted hypotheses supported by significant path coefficients and p-values of 0.053 (2.079), 0.203 (5.903), and 0.133 (5.502), respectively. These findings underscore the pivotal role of product greenness in amplifying the positive environmental outcomes of HRM practices, offering organizations strategic insights for optimizing their green initiatives and overall environmental performance.

4.4 Discussion & Conclusion

Our findings show that linking monetary and non-monetary rewards to green targets significantly improved waste segregation compliance and energy-saving behaviors among staff; hence, H1 is accepted. This aligns with prior evidence that incentive systems motivate environmental improvement by clarifying performance–reward contingencies and signaling management commitment (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). In the Pakistani context, where appraisal systems are often procedural but weakly outcome-oriented, adding specific, auditable green indicators plus timely feedback made environmental goals visible and coachable. By institutionalizing green KPIs in routine reviews, managers translated regulatory requirements into day-to-day accountability (Jabbour et al., 2010; Darvishmotevali & Altinay, 2022).

Recruiting and selecting for environmental values and competencies—such as prior HCWM training, safe handling certification, or energy-efficiency knowledge—was associated with higher compliance, supporting H3. This is consistent with prior findings that environmentally responsible recruitment practices enhance organizational sustainability performance (Masri & Jaaron, 2017; Opatha & Arulrajah, 2016). In Pakistan's public hospitals, where turnover among support staff often erodes institutional knowledge, specifying green criteria at entry reduced onboarding burden and raised baseline capability, aligning with GHRM frameworks emphasizing fit with environmental norms (Jabbour, 2011).

Targeted green training—on segregation protocols, spill response, and low-cost energy conservation—proved to be a strong predictor of environmental performance; H4 is accepted. This aligns with research showing that environmental training significantly enhances employee awareness and pro-environmental behaviors (Auranzeb, 2016; Poonam, 2017; Ojo et al., 2020). In resource-constrained Pakistani hospitals, shifting from one-off lectures to reinforced, on-the-job micro-trainings improved compliance with waste management protocols, echoing evidence that continuous education is pivotal for sustaining behavioral change (Rani & Mishra, 2014; Mishra, 2017).

A stronger psychological green climate amplified the effect of green compensation on environmental performance, confirming H5. Past studies show that when employees perceive a supportive environmental climate, rewards are interpreted as meaningful recognition, thereby amplifying their motivational effect (Zhou et al., 2018; Sabokro, 2021; Naz et al., 2023). In public hospitals, where resources are scarce, such climates provide the social reinforcement necessary to sustain 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 research contributes to the growing body of literature on **Green Human Resource Management (GHRM)** by empirically validating its role in enhancing environmental performance within the underexplored context of public sector hospitals in a developing country. By integrating **Social Learning Theory (Bandura, 1977)** and the **Resource-Based View (Barney, 1991)**, the study demonstrates how human-focused practices such as green training, green performance management, green recruitment, and green compensation develop employees' environmental capabilities and transform them into valuable organizational resources. Furthermore, the inclusion of **psychological green climate as a moderator** advances theoretical understanding by uncovering the mechanisms and boundary conditions through which GHRM practices translate into improved environmental performance. This dual-path model (mediation and moderation) highlights that GHRM's impact is not direct and linear, but instead operates through innovative behaviors and supportive climates that reinforce employee engagement with environmental goals. In doing so, the study extends prior GHRM frameworks by linking HR practices with innovation management and organizational climate theories in the healthcare sector.

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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Apenex Detail of the Questionnaire

#	STATEMENTS
	CONSTRUCT 1 – Independent Variable Green Employee Compensation (Hiba A.Masri, 2017)
1.	Employees are rewarded for making suggestions for improvement on environmental programs
2.	The organization offers a non- monetary and monetary rewards based on the environmental achievements (sabbatical, leave, gifts, bonuses, cash, premiums, promotion)

3.	Link suggestion schemes into reward system by introducing rewards for innovative environmental initiative/performance					
CONSTRUCT 2 – Independent Variable Green Performance Management (Hiba A.Masri, 2017)						
4.	Corporate incorporates environmental management objectives and targets with the performance evaluation system of the organization	1	2	3	4	5
5.	Employees know their specific green targets, goals, and responsibilities	1	2	3	4	5
6.	*Environmental behavior/targets and Contributions to environmental management are assessed and include in performance indicators/appraisal and recorded*					
7.	*Providing regular feedback to the employees or teams to achieve environmental goals or improve their environmental performance*					
8.	*Roles of manages in achieving green outcomes included in appraisals*					
CONSTRUCT 3 – Independent Variable Green Hiring and Recruitment (Hiba A.Masri, 2017)						
9.	Job description specification includes environmental concerns	1	2	3	4	5
10.	Environmental performance of the hospital attracts highly qualified employees	1	2	3	4	5
11.	Jobs positions designed to focus exclusively on environmental management aspects of the organization					
12.	Recruitment messages include environmental behavior/commitment criteria					
CONSTRUCT 4 – Independent Variable Green Training and Development (Hiba A.Masri, 2017)						
13.	Take into account the needs of environmental issues when training requirement analyzed					
14.	Environmental training is a priority when compared to other types of company training					
15.	Following induction programs that emphasize environmental issues/ concerns					
16.	Providing environmental training to the organizational members to increase environmental awareness					
17.	All training materials are available online for employee to reduce paper cost					
CONSTRUCT 5 – Dependent Variable Environmental Performance (Chen et al., 2006)						
18.	Environmental activities significantly reduced overall costs					
19.	Environmental activities significantly reduced the lead times					
20.	Environmental activities significantly improved product/process quality					
21.	Environmental activities significantly improved the reputation of my organization					
22.	Environmental activities significantly reduced waste within the entire value chain process					
CONSTRUCT 6 – Mediator Green Innovation (Chen et al., 2006)						
23.	My organization uses materials that produce the least pollution					
24.	My organization uses materials that consume less energy and resources					
25.	My organization uses materials that design environment-friendly product					
26.	My organization uses materials that are easy to recycle, reuse, and decompose					
CONSTRUCT 7 – Moderator Psychological Green Climate (Norton T. A et al., 2014)						
27.	My organization is interested in supporting environmental degradation causes					
28.	My organization believes that it is important to protect the environment					
29.	My organization is concerned with becoming more environmentally friendly					
30.	My organization would like to be seen as environmentally friendly					