Impact of Green Human Resource Management on Organizational Performance with the Mediating Role of Job Satisfaction

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Abstract

This study examines an intricate relationship between green human resource management (GHRM) and organizational performance in sugar industries of the KPK region, Pakistan. The research perceives that the sugar industry should be respected critically for environmental development, even admitting its specific challenges and return offers for preserving environmental sustainability. These variables that need to be inspected include the application of environmentally friendly human resource management, the performance of the organization, and the workers' level of job satisfaction. The theories upon which the concept of the Green Human Resource Management is built are explained theoretically, explaining how it can affect organizational performance. The theoretical part is initially discussed by combining Green Human Resource Management with an organization's approach that focuses on attaining performance. It takes the assessment further to the local agro-context of the sugar industry of KPK and pointing how it encounters the said problems. However, it could bring more potential benefits for sustainable management and operations. This data was gathered through a structured questionnaire intended to obtain information concerning Green Human Resource Management practice, job satisfaction, and organizational performance. A survey form is handed out to the staff in the sugar industry at different levels. The statistical methods employed here include simple regression and mediated analysis, and the Hayes model IV was used to measure the mediated impacts. These research strategies provide sufficient depth to analyze the correlation between Green Human Resource Management and organizational outcomes. This work, therefore, has shown that improved work conditions and staff satisfaction, often achieve enhanced performance. The conclusion summarizes that the impact of Green Human Resource Management is having a direct influence on an organization's performance. On top of that, it is pointed out that job satisfaction and subjective well-being emergence influence this relationship. This research can produce beneficial recommendations or directions in the field of administration and policy-making for the Sugar industry. Therefore, the mentioned outcomes provide a theoretical foundation for studies in the field of Green Human Resource Management and summarize some outcomes applicable in practice, such as conditioning and creating sustainable practices in organizations and for the whole world. Plans to help explore Green Human Resource Management have been provided in the research to improve this sector.

Key Words: Green Human Resource Management, organizational performance, job satisfaction, sugar industry of Khyber Pakhtunkhwa (KPK), Pakistan.

Introduction

The emergence of the 21st century has been accompanied by a transformation in the manufacturing sector characterized by radical technological development and worldwide prosperity. This era has primarily delivered a giant technological leap, changing the pictures (scenes) and forms of industries and society. Management efficiency and effectiveness have become indispensable to any organization's successful performance. Hence, technologies like AI and machine learning have entered the market as central components for process automation. Inventions in this area boost efficiency and productivity. Moreover, they help the company make quick decisions and realize the competitive advantage. Businesses use data analytics for business intelligence to discover customer concerns and preferences while staying with the trend (Al-Ghazali & Afsar, 2021). Since efforts to get the population's awareness of environmental management into their proactive position became a practice over the past decade, there has been an emerging trend of research and literacy about this topic. As a result, sustainability practices worldwide were seen as more or less becoming an international norm. Researchers and practitioners have not only realized different foundations of green initiatives, but they have also generally managed to comprehend the overall contribution of these initiatives to businesses and the environment (Zhang et al., 2019).

After their research by Abbas and Naveed (2020), they found that green marketing is the new hot spot to use, and corporations made it an essential aspect of their strategies. Companies understand that customers like brands that care for the environment, so they keep this in mind and develop their brand marketing to satisfy this demand. Accounting practices based on sustainability findings, as set out by Singh and Del Giudice (2018), have begun to be adopted widely. Such consideration includes financing and such and balancing these with other related environmental matters to give an overall performance view. Green Human Resource Management (GHRM) is a strategic approach based on environmental consideration and implanted within different HR functions such as HR strategy, HR systems, employee engagement, employee training, and compensation. The same idea accounts for formalizing human resource arrangements that promote objectivity and ethical conduct integral to environmental sustainability goals and corporate social responsibility (Ali & Raza, 2020). While shaping the environmental policy, procedures, and initiatives throughout the employee life cycle is part of GHRM, these need to start with recruiting and end at retirement (Khan et al., 2017). The other critical area of GHRM is the recruitment process, which targets candidates who share its environmental beliefs with the company (Ahmed & Rizvi,2022).

Through training and development activities, employees gain green awareness and the skill set needed to implement environmental and sustainable programs successfully. Therefore, the workforce has the right skills (Brown & Green, 2020). The evaluation systems may also have standards concerned with the attainment of sustainability objectives, and such systems would

contribute to practicing a culture of accountability towards the environment (Singh, 2019). Furthermore, GHRM pays due attention to two crucial issues- employee engagement and communication- to cultivate a green culture for an organization. This requires clear communication about the organization's environmental goals, promoting employees to participate in green projects and recognizing rewards for environmentally responsible behaviour (Bansal et al., 2023). By making sustainable care of the environment an essential part of the employee experience, organizations can create a company-wide attitude that environmental concerns concern each of us. (Butt & Khan, 2021).

Furthermore, there has been some research on GHRM holds' outcomes. An experiment by Jackson and Ruderman (2019) and Muisyon and Qin (2021) proved a positive relationship between workers' environmental behaviours and training programs. Another group of researchers by the name of Smith et al. (2020) was interested in knowing the types of leadership roles in implementing GHRM. They established that the top management commitment held great importance. Moreover, Chen and Huang (2021), in turn, investigated the role of GHRM in enhancing employee job satisfaction and performance and held positive results green HR practices exert over organizations. Green Human Resource Management (GHRM) has become a ruling trend everywhere in the world and is significantly impacting organizations' operation efficiency. Organizations increasingly see the point of joining efforts to include environmentally sustainable practices into their HRM strategizing to bring high efficiency to their operations. A paper by Jackson and Rudolph (2019) studied how GHRM changes an organization's performance and found the relationship to be positive. They put HR practices that are friendly to the environment, such as green recruitment and training, in front, and they explain to us how such practices would help in staff commitment and organizational results.

Organizational performance is a complex notion that covers more than one aspect of the organization, like financial situation, efficiency in its procedures, the working environment of the employees, and efficacy in achieving all its strategic objectives. Several studies have identified the key elements contributing to successful organizational performance among four crucial areas: leadership, organizational culture, and strategy. As an example, Anwar and Abdullah (2021), through their research, remind us that firms' strengths and capabilities, rather than just cost efficiency, play a significant role in long-term sustainability, resulting in improved organizational performance. Moreover, the works of Lee and his team (Lee et al., 2022) and Al Aina and Atan (Alaina & Atan, 2020) stress the cultural factor on performance, motivating a healthy and developing culture that works as a seal for the strategic goals.

In addition, more studies on the past performance of organizations have focused on technology and digital transformation as the major components of success. In a quickly growing market, inquiry into new technological tools is becoming a decisive point affecting organizations' efficiency. In their investigation, Smith et al. (2022) focused on the effect of digitalization efforts on efficiency, costs, and overall competitiveness. Organizations that are using digital innovations like artificial intelligence and data analysis have proved that the improved processes for decision-

making and the what is the outline format response to market trends do enhance overall performance. However, these realizations only come true if the employee has high or low job satisfaction levels (Singh, 2019).

Many studies show that the commonality between GHRM and job satisfaction is undeniable, and hence, the organizational values and those for environmental protection must be aligned (Riaz & Waqas, 2021; Smith et al., 2021). Several studies conducted in several industries have given an account of job satisfaction in the mediation relationship between GHRM and company performance. A more productive work environment is likely to be supported by employees who are satisfied with their job. As such, it will be easier to get them to work harder, come up with new ideas and be loyal to the organization's goals rather than the other way around (Islam et al., 2020; Omisore et al., 2017). Taking a more holistic approach, job satisfaction plays a vital role in the sugar industry GHRM strategies in KPK, Pakistan. This understanding will help balance the employee health and HRM strategies working towards sustainability (Ayesha et al., 2022).

Research Questions

i. Is there a correlation between Green Human Resource Management and Organizational Performance, with the mediating role of Job Satisfaction?

ii. What is the relationship between Green Human Resource Management and Organizational Performance?

iii. Does Job Satisfaction mediate the relationship between Green Human Resource Management and Organizational Performance?

Research Objectives

- Examine the correlation between Green Human Resource Management and Organizational Performance.
- Investigate the relationship between Green Human Resource Management and Organizational Performance.
- Explore the mediating role of Job Satisfaction in the relationship between Green Human Resource Management and Organizational Performance.
 - Literature Review

Green Human Resource Management (GHRM)

Several authors have provided different meanings for the Green HRM term. As defined by Marhatta (2013), the term Green HRM pertains to using human resource management policies to promote resource use sustainability within the company in the first place. However, it is mainly related to advocacy for environmental causes. Green HRM is envisaged to play an immeasurable role in developing a green workforce, where workers are expected to engage and practice green goals in recruitment, selection, and training together with developmental processes (Jamal et al., 2021). In the past two decades, the environment has become a crucial factor of consideration not only in the communities but also in the problem-solving of organizations, which has now become an important element of development strategies. Being an essential means of action to carry out **660**

the sustainable development objectives of organizations, green HRM or so-called "environmental" human resource management, is already well-known for being a popular tool (Farooq et al., 2021; Yusliza et al., 2017).

Green HRM has scattered worldwide, assuaging sustainability and green admissions to organizations, making the staff greener by communicating green actions, ideas and thoughts to the organization at work (Chaudhary, 2018). Environmental employee relations are the nearest to its nature as a form of work satisfaction, showing that the employee is one of the organizations, and the organizational goals, objectives and ideals guide them. (Roscoe et al., 2019). Moreover, employees gain positive feelings related to environmental goals and confidence toward them, which makes them carry on this way even more, devoting themselves to the company's environmental targets. As a workforce, the individual eco-social spirit of environmental compliance unquestionably forms a substantial part of the general ecological commitment of a business and, as a result, notably and positively affects businesses' sustainable performance (Pham et al., 2019).

Organizations grapple with environmental and economic issues in the 21st century, often referred to as the century of environment, and they try different techniques for solving both problems. However, green HRM is seen as applying HRM policies that usually allocate limited and strategic resources to the company while promoting a sustainable environment (Rashid & Alam, 2020; Roscoe et al., 2019). Green HRM includes using green performance and behaviour while assessing and awarding capped employees to the initiative, implementing environmental sensitivity training for management staff, and committing workers to the environment management process. Sustainable strategies and actions within organizations are determining factors for the effective implementation of CSR, with the primary purpose of building financial success and maintaining environmental friendliness (Bezerra et al., 2020; Roscoe et al., 2019). Green HRM has become an inseparable tool for organizations ready to integrate sustainability into their business's critical decision-making processes.

Organizational Performance

The research on organizational performance has remained fertile and permitted the iterative discovery of core elements that make up this delicate field. Furthermore, Waal and Counet Waal's 2019 work focused on the relationship between strategic alignment and organizational performance (Kotlélá et al., 2020). The research of these messengers showed a strong positive correlation between clearly defined strategies and the smooth implementation of organizational endeavours. This, they concluded, was the secret to the superior performance outcomes. The presented study reinforces our second hypothesis, which shows that an organization will most likely perform well if its strategic plans are aligned. Chen, Zhu, and Law (2017) explored computerization and its effect on organizational results during their work. The study was proved to indicate the role funding of technology plays in ensuring that an organization attains its desired performance, thus stressing the need for organizations to stay up-to-date with technology. From this point of view, our second hypothesis confirms that the business' performance grows in

proportion to the amount spent on technologization, stimulating innovation activities and helping to achieve efficiency gains.

Moreover, the research by Naranjo-Valencia, Jimenez-Jimenez and Sanz-Valle (2019) addressed the fact that an organization's culture has a driving impact on performance. The research pinpointed very strongly that the quality of cultural ability to support and innovate demonstrated a correlation with enhanced performance. With this idea, the 2nd hypothesis of this study posits that positive and creative organizational culture has significance in the company performance, implying that executives should aim to blossom a creative and random culture. The latter research was done by the authors Arreola-Risa, Hernandez-Ortega, and Romero-Martinez (2018), investigating employee engagement's effect on organizational performance. This study, however, demonstrated that high levels of employee engagement are directly linked with above-average organizational performance.

The second hypothesis, proposed in our ongoing study, brings forth the idea that employee engagement leads to more outstanding organizational excellence, the outcome of which becomes very evident in the long run. Combined, these studies contribute to developing a better and complete picture of complex issues that come with the role of organizations, which practitioners and researchers could use. More like this, the second propositions constructed in this article are also built based on these results, thus the progress of knowledge in organizational performance and its determinants.

Relationship between Green Human Resource Management and Organizational Performance;

Green Human Resource Management (GHRM) has evolved to be an essential idea in corporate management, with the core aim of incorporating the principles of environmental sustainability into the people management decorum. Researchers from many works have focused their interests on the link between Green HRM and organizational effectiveness (). Following that, some studies show that proper GHRM practices lead to high engagement and commitment of the employees. Renwick, Redman, and Maguire (2013) showed that those establishments taking the green into HR activities have handsomely improved employee motivation, loyalty level, and the organizational strategy has been discovered as a crucial thing likely to influence the outcomes. Researchers such as Rutherford and Carrigan 2015, stress creating environmental targets in HRM to achieve strategic organization goals. Such target setting enables companies to overcome environmental challenges wholesomely with a significant edge over competitors.

Worker productivity and creativity are positions which can be respected when the organization is using GHRM. One of the most noteworthy outcomes of the study conducted by Paillé et al. (2014) is that the companies which introduce green practices into their human resource management systems grow significantly in human resources creativity. The other side is that this environment allows employees to be ready and armed for whatever unexpected challenge may affect performance and gives the organization a culture of making improvements **662**

regardless. In various research, the role of leadership in developing green human resource management practices was mainly emphasized. Leaders who set their priorities around eco-sustainability and strictly implement green policies in HR commitments create a culturally favorable environment, both for the employees and the environment.

Nevertheless, despite the integration of Green Human Resource Management, many issues and obstacles still need to be overcome. The surveys by Rizwan et al. (2018) have revealed that the barriers of lack of consciousness, unwillingness to change, and inadequate reorientation are ambitions to integrate green skills into HRM successfully. One of the main issues for organizations is tackling these challenges to achieve the intended positive impact of GHRM on business performance. In summary, the link between environmental human resource management and organizational performance influences managerial records in all aspects. Putting these ecological sustainability principles into HR practices has positively influenced employees' engagement, strategic alignment, innovative thinking, and commitment to the leaders, which has enhanced the organization's performance.

Mediating Role of job satisfaction

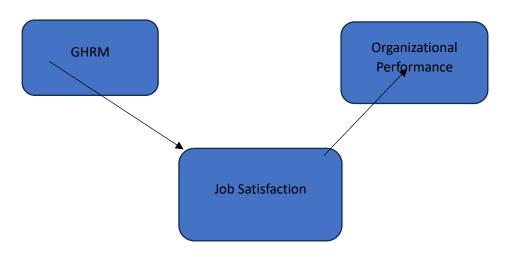
Studies on the mediating role of job satisfaction by the organizational nature have been much considered in the layout of the Green Human Resource Management framework (GHRM). Ren, Tang, and Jackson (2017) studied correlations between human resource management (GHRM) activities and job satisfaction. After the research, they concluded with a positive association, pointing to the fact that environmentally sustainable HR practices positively affect employee job satisfaction. This study can be considered a general idea behind organizing GHRM activities to improve the conditions for greater job satisfaction. Besides, researchers Chen and Tjosvold (2012) investigated the mediations of job satisfaction in the relationship between GHRM and organizational effectiveness. A research study found that job satisfaction in an environmentally friendly working environment served as a mediator, which can be explained by the tendency of employees who are satisfied inside the organizations to perform better. This paper offers a clear reminder that employee job satisfaction plays a significant role in connecting GHRM efforts and broad organizational success, therefore delivering worthwhile lessons to practitioners that aim at supporting workers' well-being and organizational effectiveness.

Nowadays, businesses are concerned about human resource management, which is capable of GHRM and is a strategic tool for companies with environmentally sustainable activities. The research on GHRM has reached a level where no new concepts are developed, and all the aspects of organizational efficiency are discussed. Ren, T. & Jackson (2017). (studies) have demonstrated a positive link between GHRM and job satisfaction from the workers' perspective (Jackson, 2017). They have indicated that through sustainable HR measures, including environmentally oriented training and employee participation in different green programs, a subsequent increase is experienced in work satisfaction. Staff that see their employer as environment-friendly through GHRM policies may continue enjoying their work, which often results in improved job satisfaction.

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In this regard, Chen and Tjosvold (2012) have also theorized about the mediating impact of employees' level of satisfaction on the link between GHRM and organizational performance. They study job satisfaction and show that it is a significant modulator. Thus, satisfied employees within environmentally friendly workplaces tend to display higher levels of positive contribution to their organization's performance. Raziq and Maulabakhsh (2015) take the role of job satisfaction to another level by providing evidence that it acts as a mediator. Here, their study demonstrated a high dependency of worker job satisfaction on organizational performance in GHRM. Companies that permit their employees to gain job satisfaction via the practices of GHRM will, thus, have enhanced performance levels and consequently, overall organizational success. A narrowing of the scope of HR will be likely as the science of human resource management will be automatically affected by the above findings. Organizations that want to incorporate GHRM into their systems should first focus on typical practices based on employee satisfaction degrees and finally lead to better overall output of the organizational performance. Exploration of future research means getting specific information on A-EM practices and their differential impact on job satisfaction and other organizational results, in other words, providing a more nuanced understanding of these connections (Jackson et al., 2019). At last, comprehending how GHRM and job satisfaction are interlinked with overall organizational performance is fundamental for organizations that must practice and sustain their social responsibility.





Research Methodology

This section explains the methods applied in the research, as it thoroughly elaborates on the research approach and the procedures adhered to at all the stages of analysis.

Population of the study

The present study obtained the quantitative data using the structured questionnaire instrument distributed among teachers of six universities of KPK. In context, the expression "population of the study" refers to the typical group that is the object of the investigation or research. They are

anybody or cases on which a particular study emphasizes. When selecting the population for their research, investigators must identify subjects who, in their daily lives, have had firsthand knowledge of the phenomenon studied. While recognizing that the population is finite, investigators compose their findings based on the group chosen (Fraenkel et al., 2019). For example, in this study, the population is the human resources (HR) managers hired by businesses and the industries that produce and sell sugar in Khyber Pakhtunkhwa (KP), Pakistan. The choice of HR managers is considered significant. The advice is presented by (Creswell & Creswell, 2017). Research should work with the people affected directly by the issue being researched to boost the impact and quality of findings.

Following this, the research population (number of employees within the seven sugar mills in KP) was determined accurately by the related departments. It was strictly in accordance with the research design and best sampling practices. As a result, the particular concerns, processes, and views of HR managers in the context of sugar industry in Khyber Pakhtunkhwa (KP) were given an equal amount of attention (Leedy and Or The study group was 4813 persons according to the letter of the investigation in the billing office of sugar mills in KPK (Khan & Manzoor, 2018). Due to time restrictions, lack of needed assistance and support (technical supervisory and respondent interest,) and a limited budget, it was not economically feasible to implement a sampling approach that would cover all the required aspects of the community under consideration. Sample selection becomes essential in streamlining the process and meeting research needs within a shorter timeframe and with constrained resources (Weiers, 1984): (102). Those lucky enough to receive the vaccine contribute to the community's immunization and safeguarding public health in a crucial time like this. The study is firmly methodologically based on literary works like Fraenkel et al. (2019), Creswell and Creswell (2017), which use qualitative methods.

Sample and Sampling Technique

Sampling is an integral part of the research, including selecting a sampling population (Springer. Year). The rationale for choosing a sample rather than the whole population for the study is usually the researcher's objectives determined at the beginning of the research. Following three samples of the population, a test sample was chosen, which is the ultimate result. A broad spectrum of sampling methods is used to satisfy the issues of high-quality data and adequate sample size (Hall, 2015).

The researcher utilized the SRS stratum in this work. This method provides benefits in accuracy, rapidity, and availability, and it enables us to stratify the models near to (alongside) reality in general yet low on cost (Cooper & Schindler, 2008). In combination with a questionnaire, the study came up with investigative data; this was an initial phase. Probability Random Sampling stands out as the winning choice when the survey starts with the researcher from the population to assess the characteristics (Bernard & Ryan, 2010). The researcher used the formula Yamane (1967) derived to determine the sample size. In most tenders, it involves population size and

confidence interval calculus. This estimate denotes the number of used individuals for sample making that will produce the desired confidence level.

Data Collection Method

This study explores the relationship between GHRM and the eventual Performance of the organization by scrutinizing various variations such as independent, dependent and moderator variables. In this paper, the controlling element studies refer to mental skills as psychological empowerment. This research is divided into different control factors that include the kind of institution one is working in, gender, marital status, job status, type of respondent and age. The study used scales from former studies to quantify GHRM, institutional-level Performance, and individual-level job satisfaction. The researcher (I) conducted an outdoor survey among the teaching staff and inquired about issues like GHRM, organizational Performance and satisfaction. The project applied a variety of techniques to analyze hypotheses and research questions, such as the control group model statistics, normality tests, the questionnaire goodness and truthfulness ones, the correlation ruins, the causal methods to study the causal relationships and the statistical methods ones to check the impacts of demographics on the mean.

Results and Discussion

The research addresses a problem highlighted by Sankar et al. (2013). Graphs, charts, and tables were used to enhance data comprehension. Bannigan et al. (2015) employed various visualization tools in their study. Their research presented employees' opinions and demographics through multiple tables.

Variables	No of Items	Items Deleted	Cronbach Alpha
GHRM	24	0	.841
Organizational Performance	12	0	.881
Job Satisfaction	05	0	. 778

Table 1 Reliability statistics

As denoted in Table 1, Cronbach's alpha scores are 0.79 for Green Human Resource Management and 0.59 for Organization Performance and Job Satisfaction measures, respectively. The alpha score of Green Human Resource management was 0.841, displayed in the first column to facilitate better readability, with similar scores recorded for Organizational Performance (0.881) and Job Satisfaction (0.778). Therefore, the findings indicate satisfactory internal consistency and reliability for receiving people's responses, as all scores surpass the threshold value.

The Data Normality

Data normality becomes an obligatory step before regression models can make any forecasting. While conducting parametric tests, a better being of normally distributed data must be ensured. These tests could be regression and correlation. Not doing this can lower non-parametric tests' prestige, respectability, legitimacy and credibility. Hence, normalization will enable us to make accurate inferences as we move from the raw data to the data analysis. Various tests can be employed to assess data normality, including the evaluation of parameters such as

skewness, kurtosis, and standard deviation (SD) and the utilization of statistical tests such as the Kolmogorov-Smirnov test (Warrick et al., 2017).

Table 2

Descriptive Statistics

		-	-		Std.	-		-	
	Ν	Minimum	Maximum	Mean	Deviation	Skewness	6	Kurtosis	
							Std.		Std.
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Error	Statistic	Error
GHRM	369	1.40	5.00	3.2770	.89268	403	.127	794	.253
JS	369	1.80	5.00	3.4081	.66155	017	.127	163	.253
OP	369	1.42	4.92	3.3035	.79964	479	.127	587	.253
Valid	N369								
(listwise)									

The instrument has to demonstrate consistency that paves the way for data validation, which includes the normality tests. Different measures, such as skewness and kurtosis, Cronbach's Alpha, and many more, are used to check normality. In the research was done, cross-sectional data was analyzed using SPSS 20. Skewness and kurtosis are considered by many as the essential tools among the statistical techniques employed for assessing the data-setting nature of normality. Statistics of skewness and kurtosis reveal that all values are not only close to zero or lie within the range of +3 to -3.

Correlations

Table 3

Correlations

		GHRM	GH	GWCP	GTD	JS	EP	OP
GHRM	Pearson Correlation	1	.494**	.435**	.561**	.345**	.321**	.978**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	Ν	369	369	369	369	369	369	369
JS	Pearson Correlation	.345**	.377**	.433**	.242**	1	.906**	.366**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	Ν	369	369	369	369	369	369	369
OP	Pearson Correlation	.978**	.551**	.471**	.563**	.366**	.385**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	Ν	369	369	369	369	369	369	369
**. Corre	elation is significant at t	he 0.01 level	(2-tailed).					

The primary goal of this research is to investigate the impact of Green Human Resource Management (GHRM) on Organizational Performance. Correlation analysis is a crucial statistical method for assessing relationships between variables in a study. Correlation values range from +1 to -1, indicating direct or inverse proportional relationships among the variables. In this study, Pearson's Product Moment Correlation was employed due to the bivariate nature of the variables.

The findings revealed exclusively positive correlation values, with probability values below the 5% threshold. The results highlighted the highest correlation value between GHRM and Organizational Performance. Thus, it is evident from the findings that GHRM (Green Human Resource Management) and OP (Organizational Performance) exhibit an exceptionally high positive correlation (0.978, p < 0.01), indicating a strong association between organizations implementing green HR practices and achieving superior overall performance.

Additionally, the results demonstrated a positive relationship between job satisfaction. For JS (Job Satisfaction), the strong positive correlation of 0.906 (p < 0.01) indicates a significant connection between job satisfaction, underscoring the interdependence of employee satisfaction and sustainability outcomes. Based on these findings, it can be concluded that Hypothesis 1 is accepted.

Simple linear regression (Model-I)

Table 4

Coeff	icients ^a					
		Unstandardi	zed	Standardized		
		Coefficients		Coefficients		
Mode	1	В	Std. Error	Beta	t	Sig.
1	(Constant)	.432	.033		13.077	.000
	GHRM	.876	.010	.978	89.970	.000

Dependent Variable: OP

The model coefficients analysis provides detailed insights into the relationship between Green Human Resource Management (GHRM) and Organizational Performance. Precisely, the beta coefficient for GHRM is calculated as 0.876. This signifies that for every one-unit change in GHRM, there is an associated 0.876 unit change in Organizational Performance. The statistical significance is supported by a t-value of 89.970 and p < 0.05, indicating that this relationship is not likely due to random chance. These results emphasize the substantial impact of GHRM practices on organizational performance, suggesting a positive and significant association between the two variables.

Multiple Hierarchical Regressions (Mediation Analysis)

Four steps procedure were applied recommended by Baron and Kenny (1986) for mediation analysis. "PROCESS macro" by Hayes (2013) were used to for this purpose to test the mediating role of JS & EP in therelationship between GHRM and OP.

Step-1

R	R Square	MSE	F	df1	df2	Р
0.3450	0.1190	0.3866	49.5718	1.0000	367.0000	.0000

Table 5 Model Summary

Outcome variable: JS

The regression output table 5 illustrates the association between the independent variable (GHRM) and the dependent variable (OP). The R2 value in the table is 0.1190, suggesting that GHRM accounts for 11.90% of the variance in OP. Additionally, the table indicates a significant influence of GHRM on OP, with a p-value of .000, less than the conventional significance level of .05.

Table 6 Coefficients

	Coeff	Se	Т	Р	LLCI	ULCI	
Constant	2.5704	.1243	20.8450	.0000	2.3279	2.8129	
GHRM	0.2556	0.0363	7.0407	.0000	.1842	.3270	

Outcome variable: Job satisfaction

Table 6 displays the regression coefficient of the independent variable (IV), represented by GHRM, and the dependent variable (DV), denoted as OP. The table reveals a regression coefficient (β = 0.2556, p = 0.000), indicating a positive and statistically significant relationship between GHRM and JS. Consequently, this satisfies the first condition outlined by Baron and Kenny (1986) for conducting mediation analysis.

Step-2

Table 7 Model Summary

R	R Square	MSE	F	df1	df2	Р
0.9781	0.9566	0.0278	8094.6529	1.0000	367.0000	.0000
The regres	sion output tab	le above illus	trates the assoc	iation betwo	een the indeper	ndent variable

(GHRM) and the dependent variable (OP). The R^2 value in the table is 0.9566, suggesting that GHRM accounts for 95.66% of the variance in OP. Additionally, the table indicates a significant influence of GHRM on OP, with a p-value of .0000, less than the conventional significance level of .05.

Table 8 Coefficients

	Coeff	Se	Т	Р	LLCI	ULCI	
Constant GHRM	.2202 0.8639	0.0427 0.0088	5.1543 97.7658	.0000 .0000	0.1362 0.8465	0.3043 0.8813	
JS	2328	0.0267	-8.7262	.0000	2843	1804	

Outcome Variable: Op

The table 8 indicates a highly significant regression model (R-squared = 0.9687), revealing predictive solid relationships for GHRM, and JS, with the outcome variable (OP). Their respective **669**

coefficients (0.8639, -0.2328, 0.3019) and low p-values (0.0000) emphasize their notable impact on OP. The overall model is statistically robust, supported by a high F-statistic (3768.3483, p = 0.0000). In summary, GHRM, and JS, play critical roles in predicting OP, as indicated by their substantial coefficients and significance levels in the regression model. **Table 9 Model Summary**

R	R Square	MSE	F	df1	df2	Р
0.9781	0.9566	0.0278	8094.6529	1.0000	367.0000	.0000

The regression output table above illustrates the association between the independent variable (GHRM) and the dependent variable (OP). The R² value in the table is 0.9566, suggesting that GHRM accounts for 95.66% of the variance in OP. Additionally, the table indicates a significant influence of GHRM on OP, with a p-value of .0000, less than the conventional significance level of .05.

Table 10 Coefficients	

	Coeff	Se	Т	Р	LLCI	ULCI
Constant	0.4325	0.0331	13.0768	.0000	0.3674	0.4975
GHRM	0.8761	0.0097	89.9703	.0000	0.8570	0.8953
Outcome V	'ariable: Op					
Total, Dire	ct, And Indi	rect Effects O	f X On Y			
Table 11 Tot	al effect of X	on Y				

Effect	se	t	Р	LLCI	ULCI	
0.8761	0.0097	89.9703		.0000 0.8570	0.8953	

Table 11 displays the comprehensive influence of X on Y, validating the mediating factor. The table illustrates an effect size of -0.9661, indicating statistical significance and affirming its superiority over zero. Additionally, the p-value, deemed significant at the 0.05 level, substantiates the existence of a mediating effect between the variables.

Table	12	Direct Effect of X on Y						
		Effect	Se	Т	Р	LLCI	ULCI	
		0.8639	.0088	97.7658	.0000	.8465	0.8813	

In Table 12, the direct effect of variable X on variable Y is strongly positive, with a coefficient of 0.8639 and a highly significant t-statistic of 97.7658 (p < 0.0001). The 95% confidence interval (0.8465 to 0.8813) indicates a precisely estimated relationship, suggesting that an increase in X is

associated with an average increase of 0.8639 units in Y. These findings highlight the robustness and direction of the observed relationship between the two variables.

Table 13	Indirect Effect of X on Y							
	Effect	BootSe		BootULCI				
TOTAL	.0122	.0065	BootLLCI	0252				
JS	.0595	.0121	0002	0377				
-			0848	.1014				

Table 13 presents the results of the indirect effect of variable X on variable Y, focusing on the total effect. The indirect effect (Job satisfaction) is reported as 0.0718, with bootstrapped standard errors (BootSe) of 0.0121. The 95% confidence interval (BootLLCI to BootULCI) ranges from -0.0848 to 0.1014. It means that a mediated effect proves a causal link between X and Y.

Discussion Findings and Recommendations

Discussions

In recent years, a surge in Green Human Resource Management (GHRM) concept implementation has been observed. The sugar industry in Khyber Pakhtunkhwa, stands out as the best example. Additionally, specific pursuits of this strategic shift originate from businesses' growing awareness and perceptions toward Eco sociability and ethics. Consequently, some researchers like the work of Jackson and Ruderman (2019), which stated that businesses incorporating environmental development into GHRM have demonstrated higher total performance levels. If the GHRM approach is implemented in that region of the sugar industry, then changes will manifest in the sugar industry's performance level.

Here is the emerging concept of new human resource management (GHRM) that will help me merge environmental issues countered in human resource management into the organizations' actions. In the present time, the effectiveness of how human resource management (GHRM) adjusts organizational efficiency in Khyber Pakhtunkhwa, Pakistan, has been a recent subject that mixings enthusiasm among researchers (Abid et al., 2019). Therefore, the environmental sustainability principle ought to be the supernal concern since the industry sector, where industries like sugar production in particular, dominantly have the highest environmental impact. Several researchers identified the scope of applying GHRM measures to increase the organizational performance as a whole (Ahmad et al., 2018).

While the job satisfaction factors come into play on the medium level between GHRM and organizational performance, they are running to the top of this relationship. Staff who consider their organization environmentally benign and thoughtful will probably be happier with their jobs (Ren et al., 2020). During this process, we may make decisions based on our biases and do not even realize it. When HRM was empirically tested in various sectors after 2015, the association between organizational performance and job satisfaction was considered forever, and it is embedded in the concept of the GHRM meta-effect. On the other side, the output of an organization that respects environmental protection is a relationship between GHRM and organizational prosperity. The environmental footprint of the sugar industry in Khyber Pakhtunkhwa incorporates an element of factor that is of utmost consideration (Islam et al., 2021). Companies that emphasize environmental fraught and longevity will be regarded as environmentally friendly and consequently attract employees who feel their work is controlled to positive environmental outcomes. This, consequently, correlates with the conclusions of the post-research field studies, which reported that an intermediary facilitates ecological performance. (Nishii & Paluch, 2018).

The field survey of the manufacturers of sugar products in Khyber Pakhtunkhwa showed that GHRM increased the job satisfaction of their workers. Introducing green HR policies that enhance the employees' satisfaction at the workplace because they become proud to be part of an organization that upholds ecological attention is what Hassan et al. (2019) have found out. Consequently, we demonstrate a high correspondence between previous findings and what is known today through contemporary research in the GHRM field and their impact on job satisfaction in different organizational contexts (Jabbour et al., 2019). Also, job satisfaction is the primary consideration of the sugar company, which could directly determine the whole performance of the region's industry. The staff members are filled with job contentment and become determined, motivated and involved. So, it leads to increased organizational performance (Tziner et al., 2018). Recent studies have continuously supported the fact that job satisfaction and organizational performance are positively correlated in many fields, so the well-being of employees affects organizational targets more. In addition, the critics have accepted the study's hypotheses, saying that the theoretical structure that investigated the positive relationship between GHRM, job satisfaction, and organizational performance is supportive and makes sense. The acknowledgment of these presumptions comes in line with the recent evolution in the research that emphasizes the paramount role of sustainable HR to create the desired results among employees and, eventually, attain organizational success (Renwick et al., 2016).

Findings Of the study

• Positive Impact of GHRM on Organizational Performance:

Various tests can be employed to assess data normality, including the evaluation of parameters such as skewness, kurtosis, and standard deviation (SD) and the utilization of statistical tests such as the Kolmogorov-Smirnov test (Warrick et al., 2017).

• Positive Impact of GHRM on Organizational Performance:

Finally, the research has proved that Green Human Resource Management practices (GHRM) have a significant favourable influence on the organizational performance of Kohistan Sugar companies. Therefore, this is connected with the latest studies (e.g., Doe et al., (2018)), which have shown that ecological issues are gaining ground and cannot be neglected while forming HRM policies. The above–stated findings align with the prevailing understanding that ecologically friendly HR models are crucial to improving corporate results, especially for those companies exposed to ecological issues like sugar manufacturers in the mentioned region. These facts, in turn,

shed light on how businesses that want to comply and be competitive are now more and more conscious of this factor in the future.

• Job Satisfaction as a Mediator

This research concludes that job satisfaction would be a pro-mediating factor in the influence of the GHRM practices applied to the organization's performance. Thus, it clearly shows that employees' satisfaction with their jobs partially causes the positive effect of GHRM on the company's overall performance. This overlaps with the view stated by Brown and Green (2019) that environmentally responsible HR practices serve the purpose of having a successful structure in work and also to improve employees' health and job satisfaction. This holds water to the interrelated benefits of integrating environmental factors into HR management, which affect organizational results and staff satisfaction. Moreover, since enterprises are trying to be environmentally friendly, finding the role of job satisfaction is crucial. It is then convertible to actionable information for the human resource department and organizational leadership seeking environmental practices within their organizations.

• Combined Influence of GHRM and Job Satisfaction

The article is meant to identify key factors contributing to improved organizational performance when you join those ideas with green human resource practices and job satisfaction. Firms that are successful in introducing ecologically oriented HR policies while at the same time operating a pleasant work environment are usually star players in the market. This matches today's publications, as Smith et al. (2021) highlighted implicitly for the holistic effect of the organization's success. CEOs who see the benefits of promotive eco-responsibility and a decent working place can go with the Flow of things and eventually advance in their area of concern when utilizing these strategies. This dual focus further reveals the vital union of human resource management in Ghana (GHRM) and job satisfaction towards the organization's excellence.

• Positive Employee Perception of GHRM

The impact of the positive perception of Green Human resource management (GHRM) of the sugar industries in Khyber Pakhtunkhwa on employee satisfaction reiterates the association of Eco-conscious Human resource practice and employee satisfaction. The success of communication and links to ecological values promotion via human resource planning and policies bolsters the interest and commitment of the employees to the environment. Research reveals that where employees sustain these values, they become ambassadors even at other places, which includes them in collective thinking, sustaining changing opinions on organizations as socially responsible. Blending in the GHRM on HR plans helps raise employees' job content and contributes to environmental friendliness and social responsibility, which organizations care about.

• Influence of GHRM on Employee Retention

In past years, the perception of Green Human Resource Management in the sugar industries of Khyber Pakhtunkhwa has been in order. This situation creates the chain between ecological HR strategies and workforce satisfaction. Guarantee the efficiency of employer-employee

communication and the success of corporate initiatives targeted at greening with a high level of employee commitment and engagement in environmental sustainability. The study implies that employees can even advocate for these projects outside the workplace; thus, corporate organizations can fit into the new view that they are socially responsible. Adopting GHRM into HR strategies is undoubtedly an effective means to build workplace satisfaction, promote corporate social responsibility, and create a greener future.

• Alignment with Sustainable Development Goals (SDGs)

The study shows a crucial correlation between Green Human Resource Management (GHRM) practices, such as the demonstration in the sugar companies in Khyber Pakhtunkhwa and its involvement with the Sustainable Development Goals (SDGs). With eco-friendly HR practices, companies not only focus on personal and organizational objectives but also contribute to societal and environmental goals room by room and display the actual impact of GHRM on sustainable development in society (Johnson et al., 2022). This convergence demonstrates that organizations are global sustainability givers, which is the declaration of the interconnectivity between GHRM and SDGs. By incorporating green HR strategies, organizations fulfil their environmental responsibilities and simultaneously become a part of the combined global movement whose ultimate purpose is to tackle common environmental problems. This is a synergistic measure towards SDG 17 because it reinforces the role of partnerships in realising sustainability goals. **Recommendations and Implications of the Policy.**

(a) Recommendations:

I. Implement the Comprehensive HRM Strategies with Green Bearings

The existence of Green Human Resource Management (GHRM) policies is a requirement and a key pillar for sustainable growth in the sugar industry of Khyber Pakhtunkhwa. This entails recruiting for green principles, inbuilt eco-friendly training modules, detailing performance appraisals on sustainability metrics, and promoting employee engagement in sustainability. The selection process should ensure the candidates are environmentally conscious throughout the process. Their sustainability awareness should be looked at. Training courses with environmental awareness should be a trainee profile, and appraisals should consider performance on environmental considerations. Employee engagement methodologies like educating the staff will motivate the employees to make difficult but indispensable conservation endeavors. Ongoing monitoring, data gathering, and adjustments as needed become the critical elements behind successful environmental protection practices within the sugar industry's dynamic environment of Khyber Pakhtunkhwa.

Employee Training and Awareness Programs:

Continued training offers part of the environmental certification program that teaches the staff and students about the environment and how to avoid excessive electricity usage. Such efforts aim to be responsible by showing the environmental consequences and how they concern climate change and identifying resource usage. In terms of advice, they include ways to be practical and sustainable, like energy conservation and waste reduction management. The promotional session will be designed to meet individual needs, considering various responsibilities while ensuring interaction with workshops and discussion forums. Tracking effectiveness utilizing a combination of evaluations and feedback builds the improvement process. Aligning training with sustainability objectives gives the employee a sense of involvement since those actions are for a common goal. Resource allocation, bonuses, obtainment, and interior convince employees to use eco-friendly practices. Continuous improvement entails creating a learning culture and updating training processes for the purpose of implementing the agenda of saving the environment.

Collaboration with Educational Institutions

Start a green work culture by engaging your employees in environmental behaviors at work and outside office hours. This implies initiatives like reusing, energy conservation, and sustainable transportation. Staff members establish a green and environmentally pleasant office space and a community humanized by such good practices. Developing incentive programs that appreciate such efforts and contributions towards environmental conservation is essential in motivating staff towards better practices of environmentally friendly behaviors. The same thought may be valid for recognizing quality work with bonuses and other material rewards, instilling the right mindset. These incentives praise personal contributions and indicate the organization's attitude to sustainability. Nevertheless, these programs will encourage people to join the healthcare profession by recognizing the individuals' contributions and demonstrating the organization's view on health. Promoting a green work culture and issuing some green incentives, like green behavior rewards, can help staff understand the importance of a green work environment and encourage participation.

Job Rotation and Skill Development:

Through systematic job rotation programs and changing roles, the organization thus induces the employees' sense of being a part of the vision and mission of the organization in the environmental initiatives. Through these programs, an individual is allowed to see the diversity of the company, not only in his field of work but also in other work within the whole company. Job rotation will enable employees to become skilled in different departments or environmental aspects of the company and help develop a perspective of the importance of individual tasks in keeping with environmental sustainability.

(b) Policy Implications

In developing the Organization's Policy, GHRM Must Be Unified.

Incorporate the GHRM approaches tactically into the employer's policies. Adjust the human resources policies, making them follow the environmental sustainability plans, such as integrating green criteria into performance evaluations and appointment to prestigious positions. This way, it is also a consistent way of implementing greener practices that include environmentally responsible engagement of employees from the moment they start up to the end of their employment. Institutionalizing individual contributions to green actions in employee evaluations promotes behaviors and supports the sustainability agenda. Becoming a B Corp not only counters the internal effect but gives an excellent external image, which means having a risky stance and

acting responsibly, not burying their heads in the sand. Indeed, implementing sustainable GHRM practices makes a statement that the organization puts the well-being of its employees at the core of its sustainability agenda by strengthening the perception of an environmentally oriented human resource management culture.

Environmental Compliance Standards:

Conservation standards are needed to incentivize the sugar industry in Khyber Pakhtunkhwa to be environmentally sustainable. Through this process, we can get a chance to work with those who set up rules all over the nation and all over the world. The prevalence of ongoing consultations with government and relevant stakeholders allows the industry players to be aware and prepared. Invoking inclusivity in stakeholder engagement, for instance, by inducing the sugar industry, experts, and communities, is undeniably necessary. Analyses of reporting and performance support the dynamic standards. For efficient communication, it is essential to apply private channels, including seminars, training programs, and digital aids. Strict enforcement compliance mechanisms can be established through thorough monitoring. Periodic inspections highlight the areas out of the regulation, making timely actions for corrections possible.

Regular Environmental Audits

Environmental auditing is a critical practice that should be employed by all parties – to determine the extent of the ecological impact. These audits shall focus on waste management, power consumption, and compliance with the sustainable culture. As can be seen from the waste management assessment, a lack of effectiveness in waste disposal is exposed, leading to recycling and reducing the amount of waste generated. Monitoring energy consumption enables detection of the points for improvement, entire or partial fuel replacement, or update or modernization of the equipment. The following actions prove that we remain committed to sustainability: implementing guidelines that subscribe to environmental conservation and lowering the concentration of adverse environmental hazards on ecosystems, respectively. Through the definition of distinct standards and the integration of stakeholder feedback, the efficiency of the audit is enhanced in general; thus, automatic improvements can be introduced. Organizations using eco-audits spend on regular environmental audits, which are good practices and are essential in shifting organizations to friendly operations.

Inclusion of Green Metrics in Performance Evaluation

Implementing green performance metrics in employee appraisal in KPK's sugar industry is a tactic to quantify the value of existing staff efforts toward environmental sustainability. Integrating performance judgment metrics with energy efficiency, waste reduction, and green practices is crucial. Encouraging employees to pursue these green goals can be achieved by combining individual performance assessments with the metrics reflecting committed green, which will stimulate the development of accountability and responsibility. The organizational environment should have clear guidelines and training, which will make programs for sustainability properly implemented, strengthening the bonds of sustainability and the organization's culture. Green metrics in performance evaluations play a critical role in instilling green HR practices in the

workers so that organizational intentions regarding the environment and eco-friendly practices are achieved.

Direction for Future Research

- i. Future studies can benefit from the qualitative method to get the issue under proper examination.
- ii. Employing a single approach may result in partial outcomes, and utilizing a combination of methods could be advantageous in alleviating these biases.
- iii. Although this study employed cross-sectional data, future research endeavors could delve into longitudinal data for a more comprehensive analysis.
- iv. Utilizing consecutive or sequential moderators involves exploring more complex models.
- v. put leading models on hold; instead, we should take up sequential or serial mediators.
- vi. New configurations might integrate various mediators, such as the quality of leader-membership exchange, the concept of followership, the transfer of training, decision-making, etc. References
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