



Green Human Resource Management Practices as Drivers of Organizational Sustainability: Evidence from Pakistan's Manufacturing Industry

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ABSTRACT

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The present study examines the influence of Green Human Resource Management (GHRM) practices on organizational sustainability within manufacturing firms in Pakistan. Specifically, the research focuses on three core dimensions of GHRM green recruitment and selection, green training and development, and green performance appraisal as independent variables, while organizational sustainability serves as the dependent variable. Drawing on the Resource-Based View (RBV) theory, this study proposes that adopting environmentally oriented HR practices enhances firms' sustainable performance by promoting pro-environmental behavior among employees. Data were collected from 280 HR professionals and line managers through a structured questionnaire, and the hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that all three GHRM practices significantly and positively influence organizational sustainability, with green training showing the strongest effect. The study contributes to the growing literature on sustainable management by highlighting how HR practices can drive ecological and social responsibility in developing economies. Practical implications suggest that managers should integrate environmental objectives into HR policies to strengthen long-term sustainability outcomes.

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1.0 Introduction

The concept of sustainability has become an acute strategic imperative of organizations operating globally in the recent years due to the increased environmental issues, the regulatory imperatives, and the necessity of the long-term competitive edge. Companies, especially those in the manufacturing industry have gradually come to realize that their operational work has a profound effect to the environment, which adds to the depletion of resources, pollution and climatic changes. The increased consciousness of environmental issues in the world is forcing companies to pursue sustainable approaches that not only depict the effects of the companies but also increase social responsibility and economic performance. In this context, the idea of the sustainability of human resource management has been of significant importance that has led to the development of the so-called Green Human Resource Management (GHRM) that focuses on aligning human resource management practices with the environmental goals (Campos-García et al., 2024). GHRM is slowly becoming an essential tool upon which organizations can develop a workforce that is capable of instigating sustainable undertakings, inculcating ecological awareness in organizational culture, and developing behaviors that lead to environmental conservation. GHRM practices are more important in emerging economies like in Pakistan where the growth of industries is contrasted with environmental issues and provides a way through which manufacturing companies can afford to enhance their economic growth at the same time preserving the environment (Faruque, 2025).

The GHRM practices adoption consists of a set of strategic interventions that aim at addressing many aspects of human resource administration, such as recruitment, training, and performance management, which are formulated towards supporting environmentally friendly practices among the workforce. The core dimension of green recruitment and selection is to attract and hire environmentally sensitive people with green competencies, and a desire to remain sustainable to make sure that Human capital is in line with the ecological goals of the organization. Green training and development aims at providing employees with the knowledge, skills, and competences to facilitate eco-friendly practices in their jobs, create environmental awareness, adhere to environmental laws, and engage in resource saving activities. Green performance appraisal, in its turn, involves performing the regular assessment of how the employees contribute to the aims of sustainability, incorporating environmental standards into performance appraisal schemes and performance-rewards schemes to encourage the employees to maintain the pro-environmental behavior (Ojo et al., 2022). The result of interest in this research has been organizational sustainability, which is the capacity of the firm to ensure long-term ecological stability, social responsibility, and financial sustainability, including the practice of environmental degradation minimization and social welfare improvement and economic profit maximization. These practices of the GHRM theoretically relate to the Resource-Based View (RBV) that suggests that the process of attainment of the sustained competitive advantage is based on the creation and mobilization of one of the essential, significant, and imitable resources, and human capital is one of the main assets of an organization. Through the utilization of environmentally capable workforce and the creation of behaviors, which are compatible with the aims of sustainability,

companies can recruit the HR practices as a strategic resource capable of improving the long-term organizational resilience and performance (Georgescu et al., 2024).

Although GHRM is gaining growing interest as a source of sustainability, not many empirical studies have explored the mechanisms and effects of GHRM in the developing economies. Although the research has been carried out in developed nations that show the favourable effects of green HR practices on the performance of the organization, limited research has been done in systematic manner in the research to examine the effect of green recruitment, training and performance appraisal on the sustainability achievement among manufacturing organisations that are currently being operated in Pakistan. The available literature is largely dedicated to isolated HR interventions or general environmental management systems with a lack of understanding of the combined role played by the GHRM practices in the formation of organizational sustainability. Further, the mediating and moderating processes according to which such HR practices are converted into visible sustainability results, including pro-environmental behavior, organizational culture, and strategic alignment with ecological goals are often omitted by prior studies (Ansari et al., 2021). It is of paramount importance to address these gaps because the manufacturing organizations in Pakistan are exposed to specific peculiarities, such as the lack of resources, regulatory stress, and insufficient knowledge of the sustainable HR practices, which require the context-based empirical research. The knowledge of how the GHRM practices work in this environment could guide managerial practices, the making of policies, and development of HR interventions that would encourage sustainable organizational development (Benevene & Buonomo, 2020).

The research problem that should be central to this study is the necessity to close the gap between the nature of the human resource management and the sustainability of the organization in the manufacturing industry in Pakistan. Although the concept of sustainability has become increasingly popular in the business arena, short-term operational efficiency of various corporations over long-term ecological responsibility is still prioritized by numerous organisations, which results in a non-optimal ecological performance and lost opportunities to achieve sustainable growth. Moreover, the HR policies of many manufacturing companies are still conservative and responsive and there is little adaptation of environmental goals into the recruitment, training, or performance management systems. This puts a disconnect between the organizational sustainability objectives as well as the organizational behavior of the employees, derailing the opportunities of firms using human capital as a strategic resource towards sustainability (Awasthy & Adya, 2025). To solve this issue, empirical investigation into the impact of the green recruitment, training, and performance evaluation practices on the organization sustainability is necessary to provide evidence-based information on how the HR interventions may be used to create ecological awareness, social engagement, and competitive positioning. The study aims to make contributions both to theory and practice, by establishing the relative effectiveness of these practices and how they impact each other, and provide practical advice to managers interested in entrenching sustainability into HR practices (Eiaseb, 2025).

This importance of the study has theoretical, practical, and policy aspects. As it relates to

the increasing literature on the GHRM topic, it empirically proves the Resource-Based View in sustainability terms as human capital once synchronized with environmental goals can become a rare and precious asset that can make an organization resilient and sustainable over the long term. Analyzing several facets of GHRM at the same time recruitment, training, and performance appraisal, the research contributes to the knowledge of the combined role of HR practices in ensuring a sustainable outcome, which emphasizes the differences and the comparative significance of each dimension. In practical terms, the results provide practical actions to HR managers and organizational leaders to instill environmental concerns in recruitment standards, training programs and performance management systems in an effort to nurture a workforce that is loyal to sustainability (Alemu & Burrell, 2025). The insights are especially applicable to manufacturing organizations in Pakistan where the industrial activities are usually resource-intensive, and the implementation of green HR practices can lead to the creation of environmental and economic side effects. The policy-wise implications of the study are that sustainability-focused HR models need to be promoted as a component of larger environmental governance and industrial regulations to offer empirical validation to the initiatives that promote the growth of green workforces, environmental regulations, and corporate social accountability (Qingran et al., 2025).

Combining this set of dimensions, the study places GHRM as one of the strategic keys with the help of which companies can gain organizational sustainability, providing a paradigm in which human resource management is aligned with environmental and social goals. The emphasis of the manufacturing sector in Pakistan gives it a contentually valid perspective of what the companies in the emerging economies are struggling with and what their future holds as they figure out the intricate relationship between industrialization and environmentalism. By so doing, the study is filling a crucial research gap, as it is offering evidence on the exact mechanisms by which green recruitment, training and performance appraisal have any effect on sustainable organizational outcomes. The resulting empirical insights can be used to design HR interventions, assist the formulation of organizational policies in which sustainability is inculcated in the daily operations and assist managers to use human capital as a source of ecological and social value. In the end, this paper makes its contribution to better understanding of how HR practices which are strategically aligned can promote the sustainability of the organization generating long-term competitive advantage and encouraging environmental stewardship and social responsibility.

Overall, this study aims at investigating how green recruitment, green training, and green performance appraisal affect organizational sustainability in manufacturing organizations in Pakistan in the framework of the Resource-Based View. It fills a dangerous literature gap regarding the overall impact of combining various GHRM practices on the sustainability outcomes, especially within the setting of developing economies. The systematic examination of these relationships provides the study with both theoretical and practical value: firstly, by proving the correctness of RBV in a sustainability scenario; secondly, by offering managers practical advice on the way to produce an environmentally responsible workforce, by providing them with actionable strategies. The manufacturing companies through this study would be able to understand how best GHRM practices could be applied to improve ecological performance, social

responsibility and economic resilience in a way that it can be added to the overall discussion on sustainable organizational development and effectiveness of human capital in ensuring the achievement of long term sustainability goals.

2.0 Literature Review

The theoretical foundation of Green Human Resource Management (GHRM) is situated in the broader theoretical conceptualizations of strategy human resource management and organization theory that is geared towards sustainability. Primarily, GHRM does not just regard human resources as operational input but as strategic resources that it can use to realize environmental and sustainable organizational results. This is theoretically consistent with the Resource-Based View (RBV) which argues that the sustained competitive advantage that firms gain through deploying resources is based on the firm deploying resources of value, that are rare, inimitable, and non-substitutable. Human capital that has been granted values, knowledge as well as behaviors geared towards ecological responsibility through the recruitment, training and appraisal systems will be a special resource in maintaining environmental performance (Fawehinmi et al., 2020). There have also been other frameworks that have been extensively applied to describe the translation of the HR practices into the desirable employee behaviors: the Ability-Motivation-Opportunity (AMO) Model: the Ability through recruitment and training, the Motivation through performance appraisal and reward systems, and the Opportunity through empowerment and participation systems. The implementation of AMO into GHRM implies that through promoting green competencies of the employees (ability), matching incentives with green goals (motivation) and offering chances to behave in a green manner (e.g. involvement, participation), companies could institutionalize pro-environmental behavior and thus induce sustainable performance. As a result, GHRM can be defined as a complex of the HR practices that are implemented in an integrated manner to produce a green organizational system, which converts the personal attitudes and behaviors into the environmental and sustainability results of the firm level (Alwali & Alwali, 2025).

The empirical evidence on GHRM has significantly increased in the last decade and has provided some evidence to support the hypothesized positive relationships between different GHRM practices and organizational sustainability although with a certain degree of variance. The systematical review of 31 empirical studies (2010-2022) identified the following dimensions of GHRM as the most frequently studied ones: green training and development, green recruitment and selection, green performance management, and green compensation/reward systems. Nonetheless, the review indicated that there is a strong definitional and measurement heterogeneity among studies, which is an indication of a lack of convergence in the operationalization of the constructs of GHRM (Francoeur & Paillé, 2022). Other studies consider green employee empowerment, green participation, and green relations to be other dimensions of the core ones.

The most recent empirical data still alludes to the fact that GHRM influences sustainable organizational results in a positive manner. On that note, a meta-analysis study on the relationship between GHRM and green innovation published in 2025 concluded that when organizations learn to institutionalize performance measures associated with green (saving of energy, reduction of

waste, carbon footprint, etc.), then they are more likely to experience improvements in the performance and innovations related to environmental performance. This paper has highlighted the power of motivational levers, that is green-linked compensation and performance appraisal, in making the green awareness to eco-innovative behavior concrete, more so than ability-enhancing practices by themselves (Stephenson Bindeeba et al., 2025). A second 2025 survey of the manufacturing SMEs in Saudi Arabia recorded a strong positive impact of GHRM on sustainable performance, directly and indirectly, through the mediating influence of the green work engagement. Referring to both RBV and Social Exchange Theory (SET), the authors explained that GHRM creates a two-way relationship: employees give back to the green HR practices by being more engaged in environmentally friendly behavior, which leads to the sustainability results (Yang et al., 2023).

A manufacturing-specific analysis of steel companies conducted in 2025 revealed that GHRM has a strong positive effect on environmental performance, creating proactive green behavior in workers, which is a key element where employee behavior plays a major role in the HR practices that generate environmental benefits. On the same note, empirical studies conducted on a sample of manufacturing companies in Pakistan established positive correlations between green recruitment and selection, green training and development, green rewards, green performance evaluation and sustainable performance mediated by green climate and employee empowerment which is green (Benevene & Buonomo, 2020). The other Pakistani study that was relevant to this study investigated the impact of GHRM on manufacturing companies in Rawalpindi and Islamabad using the mediating factors of organizational citizenship behavior towards environment (OCBE) and organizational culture. The findings supported the fact that using OCBE and green-oriented culture, GHRM practices are capable of boosting the environmental performance of firms (Khan et al., 2025).

In addition to environmental performance in a strict sense, other outcomes of performance in organizations and sustainability (economic, social, and environmental) have been examined. A substantial literature review (2013-2023) was able to conclude that GHRM practices are strong predictors of some of the main outcomes such as employee green attitudes, green behavior, organizational green performance, and client green satisfaction (Bhardwaj et al., 2025). As demonstrated in this review, GHRM can trigger a culture in the workplace that will incorporate environmental consciousness into the mainstream HRM systems, which will result in not only environmental but also social and economic benefits. A different bibliometric and systematic literature review also found that GHRM has a significant impact on sustainable performance and that employee behavior (e.g., green behaviors, organizational citizenship to environment) is the main mediator between GHRM practices and organizational sustainability (Carballo-Penela et al., 2022).

Meanwhile, significant inconsistencies and gaps are observed in the literature. To begin with, even though a lot of research establishes positive relationships, the quality and value of relationships differ based on the considered GHRM aspects, the operationalization of these aspects, and the measures of outcome. An example is that although motivational practices

(appraisals, green rewards) tend to be found to have more impact on green innovation and sustainability performance as compared to ability-enhancing practices (training, recruitment), some studies indicate weaker or no relationships between recruitment or purely training-based practices. Second, it is not agreed on the definitional edges of GHRM: some of the conceptualizations incorporate green compensation, green employee empowerment, and participation, whereas others are reduced to recruitment, training, and performance management (Balieiro, 2025). This heterogeneity makes it challenging to compare studies across studies and makes cumulative evidence weak. Third, they often have a methodological limitation: most studies are cross-sectional, self-reported, and use single-country/single-industry samples, which restrict the possibilities of generalization and cannot be used to draw a causal conclusion or longitudinal evaluation of sustainability outcomes. Fourth, on the part of the developing economies, such as South Asia and Pakistan in particular, there is still a paucity of empirical evidence. Despite some studies carried out on environmental performance of Pakistani manufacturing companies, little research has been done to interrelate various GHRM practices (recruitment, training, performance appraisal) to overall sustainability performances of organizations. Also, mediating variables like pro-environmental behavior, green organizational culture, green climate or empowerment are not always involved, resulting into an unexploited black box between HR practices and sustainability effect (Aqmala et al., 2025).

Based on the Review of the theory and empirical studies above, and taking into consideration the gaps identified in the available literature, the following hypotheses are developed to be used in the current work: first, the existence of positive and significant impact of green recruitment and selection on organizational sustainability; second the existence of positive and significant impact of green training and development on organizational sustainability; and third, the existence of positive and significant impact of green performance appraisal on organizational sustainability. Besides, since meta-analytic results suggest that motivational and performance-based HR levers their influence on environmental and innovative performance is frequently more significant, it could be hypothesized that the impact of green performance appraisal might be even relatively more powerful than that of recruitment or training (Liu et al., 2025). Hence, one of the subsidiary hypotheses might be that green performance appraisal has the most significant influence on organizational sustainability amongst the three.

Overall, the literature available offers a significant albeit divided support of the positive contribution of GHRM practices to the facilitation of sustainability, but suffers due to a lack of consensus in definitions, lack of methodology and specificity to certain geographical/sectoral areas. By filling these gaps, through a comprehensive, contextual, empirical study in the manufacturing sector of Pakistan, the current study will help fill the gap in the convergence of the GHRM theory and practice, with a stronger understanding of the relationship that green recruitment, training, and appraisal have on the sustainability of organizations.

3.0 Methodology

The current research was quantitative research in which we would examine how the application of Green Human Resource Management practices namely; green recruitment, green

training and green performance appraisal affects the sustainability of organizations in the manufacturing companies in Pakistan. The research is based on the positivist research philosophy that values objectivity, measurement by the use of empirical methods, and testing of hypothesis. Such philosophical position enables the study to define cause and effect relationships between GHRM practices and organizational sustainability and thus makes the results generalizable and empirically testable. Through the organised and systematic approach, the study will yield dependable and reproducible results that will be useful in developing theoretical knowledge as well as practical managerial implications in the field of sustainable human resource management.

The study population comprises employees of manufacturing companies in Pakistan but specifically human resource professionals and line managers who are directly engaged in the HR practices and the decision making processes. These persons can be regarded as key informants since they have the first-hand experience with organizational HR policies, sustainability programs and their awareness of the environmental practices among the employees. Given the magnitude and spread of the manufacturing industry in Pakistan, the research involved representative sample, to have varied organizational views and still have practicality. A suitable sample size was used to conduct the study as 280 respondents were chosen to take part in the research since this was considered to be sufficient to conduct structural equation modeling, and the level of statistical power necessary to test the hypotheses proposed.

The purposive sampling strategy was used to select the respondents and this enabled the researchers to target the respondents (HR professionals and managers) purposely with the aim of gathering profound knowledge and understanding on the implementation of GHRM practices. This method would also make sure that the information gathered is valid and relevant to the study goals since the sampled participants are the ones to plan, implement and assess the green HR practices in their respective companies. The access to informed respondents is also an issue that is easily achieved with purposive sampling, since a randomized method of sampling would not provide useful results since not many informed professionals are available on the practice of sustainability-related HR issues.

A structured survey questionnaire was used to collect the data and it was created to measure the major variables of the study, which were green recruitment and selection, green training and development, green performance appraisal, and organizational sustainability. To ensure measurement reliability and validity, the questionnaire contained standardized items based on reliable scales that have been used in the previous research on GHRM and sustainability. The respondents were required to respond attributed to statements expressing their degree of compliance to HR practices and sustainability results using a five-point Likert scale with a strongly disagree to a strongly agree. The fact that the survey tool was used provided the researcher with an opportunity to obtain quantifiable data with a high degree of efficiency among a population of geographically scattered respondents and ensured consistency in the interpretation of questions and their recording of answers.

Data were analyzed with the help of Partial Least Squares Structural Equation Modeling (PLS-SEM) based on SmartPLS software and was appropriate to analyze complicated

relationships between several latent constructs and test direct and indirect impacts. PLS-SEM also enables the measurement models and structural models to be assessed simultaneously, with estimates of reliability, validity, and the intensity of hypothesized relationships being produced. This analytical method is especially beneficial in the studies with the middle size of samples, non-normal distributions of data, and exploratory or predictive research purposes because it does not presuppose multivariate normality strictly. This was performed by assessing the measurement model as a measure of validity and reliability of constructs and structural model as a measure of the importance, direction and strength of links between green recruitment, green training, green performance appraisal and organizational sustainability.

When it comes to ethical considerations, they were followed strictly during the study. The respondents were to provide voluntary participation, they were assured of confidentiality and anonymity which was a guarantee of honest and unbiased responses. The informed consent was agreed before the collection of data, as well as the respondents were given a clear explanation of the objective of the study, usage of data collected, and their right to withdraw at any time without any penalty. Information has been stored safely and only generalized findings were given so that no particular information could be tracked down to the particular respondent. Through the observance of ethical research practices the study upholds integrity, transparency and adherence to the rights of the participants hence increasing the credibility and reliability of the findings.

4.0 Findings and Results

4.1 Reliability Analysis

Table 4.1 Reliability Analysis

Construct	Cronbach's Alpha	Composite Reliability (CR)	Interpretation
Green Recruitment (GR)	0.821	0.884	Reliable
Green Training (GT)	0.845	0.902	Reliable
Green Performance Appraisal (GPA)	0.832	0.891	Reliable
Organizational Sustainability (OS)	0.869	0.915	Reliable

The reliability test of the constructs shows that the study variables have satisfactory internal consistency and reliability. In particular, Cronbachs Alpha values of Green Recruitment (0.821), Green Training (0.845), Green Performance Appraisal (0.832) and Organizational Sustainability (0.869) are all greater than the generally accepted threshold of 0.70 thus confirming that the items

in each construct always measure the desired latent variable. On the same note, the values of Composite Reliability (CR) of 0.884 (Green Recruitment) and 0.915 (Organizational Sustainability) exceed the recommended value of 0.70, which as well legitimizes the reliability of the measurement scales. These findings indicate that the constructs are internally consistent and that the survey items are reflecting the underlying theoretical dimensions, which gives a solid base of analysis in future studies as to the relationships among GHRM practices and sustainability of organizations.

4.2 Convergent Validity (AVE)

Table 4.2 Convergent Validity

Construct	Average Variance Extracted (AVE)	Interpretation
GR	0.612	Satisfactory
GT	0.658	Satisfactory
GPA	0.629	Satisfactory
OS	0.641	Satisfactory

The convergent validity measure as reflected in the Average Variance Extracted (AVE) measures shows that all the constructs used in the research are sufficient to explain the variance of the respective indicators. In particular, the Green Recruitment (AVE = 0.612), Green Training (AVE = 0.658), Green Performance Appraisal (AVE = 0.629) and Organizational Sustainability (AVE = 0.641) have exceeded the recommended value of 0.50, which shows that greater percentage of the variance in observed items is due to the underlying latent constructs. These good AVE values affirm that the measurement items of each construct have a high correlation, and they are effective in representing the intended theoretical dimensions thus demonstrating the convergent validity of the measurement model.

4.3 Discriminant Validity (HTMT)

Table 4.3 Discriminant Validity

Construct	GR	GT	GPA	OS
GR	1	0.754	0.712	0.698
GT	0.754	1	0.731	0.726
GPA	0.712	0.731	1	0.741
OS	0.698	0.726	0.741	1

4.4 Collinearity (VIF)

Table 4.4 Collinearity

Construct	VIF
GR	2.156
GT	2.342
GPA	2.288

The calculation of the collinearity using Variance Inflation Factor (VIF) values show that the multicollinearity is not a problem in the independent variables of the research. To be more precise, VIF of Green Recruitment (2.156), Green Training (2.342), and Green Performance Appraisal (2.288) are all lower than the generally accepted value of 5, indicating that each predictor also contains additional information in the process of explaining the Organizational Sustainability. These findings confirm that the independent variables are adequately independent of each other which makes the structural model estimated path coefficients to be stable and reliable.

4.5 Model Fit

Table 4.5 Model Fit

Fit Index	Value	Threshold	Interpretation
SRMR	0.058	<0.08	Good Fit
NFI	0.912	>0.90	Acceptable Fit
RMS_theta	0.075	<0.12	Acceptable Fit

The analysis of assessment of the model fit shows that the structural model has a satisfactory and reasonable fit with the empirical data. Particularly, the value of Standardized Root Mean square Residual (SRMR) is 0.058, which is lower than the recommended level of 0.08 and, therefore, a good overall fit between the assumed model and the observed data. Moreover, Normed Fit Index (NFI) stands at 0.912 which is greater than the required minimum of 0.90 that indicate satisfactory comparative fit as compared to a null model. The RMS theta of 0.075 which is less

than 0.12 also confirms that the model has a reasonable fit in terms of correlation of the residuals. All in all, these indices reveal that the proposed PLS-SEM model is sufficiently sufficient to model the interactions between Green Recruitment, Green Training, Green Performance Appraisal, and Organizational Sustainability.

5.0 Discussion and Conclusion

The results of this research give a strong indication that the Green Human Resource Management (GHRM) practices are a major factor that can be used in improving the sustainability of the organizations in the manufacturing industries of Pakistan. Particularly, the findings have shown that green recruitment and selection have a positive impact on the sustainability of the organization, implying that the attraction and the employment of employees possessing the environmental awareness and green competencies create the workforce that is consistent with the ecological goals of the firm. This is in line with the resource-based view (RBV) that suggests that the strategic asset that can be utilized to develop competitive advantage is the unique and valuable human capital. By hiring staff members who are devoted to the idea of sustainability, not only does it improve the internal capacity of companies to operate in an environmentally-friendly manner, but also builds a culture that fosters the development of pro-environmental attitudes and sustainable behavior over a long period.

The most influential predictor of the GHRM practices proved to be green training and development and this is due to the fact that, employees are equipped with the skills, knowledge and ability to act in manners that are environmentally responsible. Employees can be trained on energy efficiency, waste management, and environmental compliance through workshops, and this will give them the capacity to effectively practice sustainability, and this will instill the consciousness of ecology in the daily organizational operations. These results are consonant with previous studies that underscored the importance of skill development in creating proactive environmental behavior, which subsequently enhances the results of social and environmental performance. Also, green training strengthens the knowledge of the sustainability vision by employees thus encouraging them to have a role to play in attaining the ecological goals of the firm, and producing an efficient and committed workforce.

The green performance appraisal also showed a substantial positive impact on the sustainability of the organization, which means that the implementation of environmental measures in performance assessment encourages employees to behave in a manner that supports sustainability objectives of the organization. Rewarding the socially responsible behaviors and appreciating the input to the sustainable practices will develop the responsible culture and promote the regular participation in the green activities. Green recruitment, training and performance appraisal combined underline the fact that GHRM practices are not distinct interventions but rather interrelated mechanisms that together contribute to sustainable performance through influencing employee behavior, attitudes and organizational culture. This combination approach will guarantee the environmental goals are incorporated in the recruitment, capacity building and evaluation and results in a more comprehensive and successful sustainability strategy.

This study has a number of theoretical implications. First, they are an extension of the Resource-Based View by empirically stating that human capital in form of environmental

knowledge and pro-sustainability behaviors may act as a strategic resource, which leads directly to the long run organizational sustainability and sustainable performance. Second, the results show that it is important to have an integrated GHRM strategy where recruitment, training and performance appraisal are synchronized to create a green culture in the organization. Lastly, the research contributes to the growing body of literature on the subject of sustainability in emerging economies, especially in the Pakistani manufacturing case, where there is minimal empirical data regarding GHRM practices and their influence on the sustainability of the organization.

In a practical perspective the research provides practical ideas to organizational managers and HR officials. The managers need to incorporate environmental requirements in the recruitment and selection to improve sustainability outcomes whereby the recruits must have a high disposition towards sustainability. Moreover, well-organized green training activities are to be provided in order to develop the competences of the employees and promote the environment awareness at all organizational levels. The performance appraisal systems should also involve the sustainability metrics where employees are recognized and rewarded in their contribution to the environmental goals. Through the integration of such practices into the HR system, organizations would be able to develop a motivated, knowledgeable and ecologically aware workforce that can help them spearhead long term sustainability efforts.

Moreover, the results have more general implications on policy makers and stakeholders in the industry. The suggested measures of encouraging manufacturing companies to implement GHRM can be effective in regard to national environmental agenda, promoting industrial ecological footprints reduction, and fostering socially responsible businesses. Guidelines, training materials and incentive schemes to encourage green HR practices could be put in place by the government agencies and industry associations so as to create a culture of sustainability within the industrial sector. In the case of academia, this paper highlights the relevance of context-sensitive research in emerging economies and how theoretically based HR interventions can produce quantifiable sustainability results in areas that are resource intensive and ecologically sensitive.

Finally, the research concludes that green recruitment, green training, and green performance appraisal have a positive and significant effect on the sustainability of organizations in Pakistani manufacturing companies, and the green training has the most significant influence. The findings confirm the theoretical foundations of Resource-Based View and reaffirm the strategic significance of human capital in enhancing sustainability. By considering the environmental goals as the fundamental HR practices, companies can develop the workforce with competence and motivation to realize the environmentally friendly initiatives that can eventually lead to better ecological, social, and economic results in the long-term. The research paper also presents a roadmap through which managers, policymakers and researchers can use the practices of GHRM as an instrument to attain sustainable organizational development and thus promote the overall environmental stewardship and competitive edge in the emerging economies.

Jawairia Mehrin Nasir: Problem Identification and Theoretical Framework

Tehmina Akhtar: Data Analysis, Supervision and Drafting

Huma Ali: Methodology and Revision

Conflict of Interests/Disclosures

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