



The Open Access Journal of

*Resistive Economics*

www.oajre.ir

Volume 11, Issue 2, 2023

ORIGINAL RESEARCH PAPER

Pages: 66-82

## The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance

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Received: 07 Jan 2023

Revised: 19 March 2023

Accepted: 30 March 2023

### ABSTRACT

The present study was conducted with the objective of investigating the impact of Green Human Resource Management (GHRM) on job engagement, incorporating the mediating roles of managerial support and Human Resource Management (HRM) performance. In terms of purpose, this research is applied, and regarding data collection methodology, it adopts a descriptive-correlational design, specifically employing Structural Equation Modeling (SEM). The statistical population of this study comprised all employees of Mobarakeh Steel Company in Tehran, totaling approximately 540 individuals. Based on Morgan's table, the sample size was determined to be 224 participants. A non-probability convenience sampling technique was utilized for participant selection. Data were collected using a researcher-developed questionnaire. For data analysis, SPSS software was employed for descriptive statistics, while SmartPLS software was utilized for inferential analysis and model testing. The findings indicated that Green Human Resource Management exerts a significant positive influence on job engagement. Specifically, a one-unit increase in each dimension of Green Human Resource Management corresponds to a 0.608-unit increase in job engagement. Furthermore, managerial support was found to play a significant mediating role in the relationship between Green Human Resource Management and job engagement, with an indirect effect coefficient of 0.525, which exceeds the magnitude of the direct effect. Similarly, HRM performance demonstrated a significant mediating role in the association between Green Human Resource Management and job engagement, yielding an indirect effect coefficient of 0.473, which also surpasses the direct effect coefficient. These results underscore the importance of integrating environmental sustainability practices into human resource strategies to enhance employee engagement through supportive managerial practices and improved HRM performance.

**KEYWORDS:** Green Human Resource Management; Job Engagement; Managerial Support.

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**How to Cite This Article:** Hossein Nia Miri, A; Salar, J. (2023). "The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance". *The Open Access Journal of Resistive Economics*, 11(2): 66-82.

## 1. Introduction

In recent years, the rapid depletion of natural resources and environmental degradation have created complex challenges for businesses worldwide (AlQershi et al., 2022). Many organizations, by acknowledging responsibility for the negative impacts of their operations, strive to enhance sustainability, environmental health, and safety through the adoption of strategic approaches. However, the implementation of environmentally friendly solutions is often perceived as a financial burden, and green investments typically involve long-term risks and returns. To achieve environmental objectives and foster a sustainable organizational culture, companies have increasingly turned to Green Human Resource Management (GHRM). This encompasses practices such as green recruitment and selection, green training and development, and green performance management. Recruiting and hiring environmentally conscious employees equipped with the necessary competencies can advance organizational sustainability initiatives. Furthermore, providing green training to employees has proven effective in achieving environmental goals and strengthening employees' motivation to commit to ecological responsibility. Empirical studies have demonstrated that green training positively influences environmental performance, as it enables organizations to pursue green objectives by rewarding employees' environmental commitment (Bourghani Farahani et al., 2018).

Moreover, integrating green performance indicators into performance management systems supports responsible ecological behaviors among employees. One fundamental aspect of organizational success lies in employees who exhibit high levels of job engagement—individuals who interact effectively with customers, fulfill their needs, and establish trust-based relationships. Achieving growth and market success often depends on having a workforce deeply engaged with their work. Job engagement comprises three core dimensions: vigor, dedication, and absorption. Employees who are engaged in their work maintain enthusiasm, pride, and satisfaction even during extended working hours (Bakker & Demerouti, 2017).

Green Human Resource Management is recognized as an effective instrument for enhancing job engagement among employees (Renwick et al., 2013). Employees who perceive that organizational management supports "green HRM practices" are likely to report higher levels of job engagement. These individuals, who interact directly with customers, possess the capacity to achieve desirable outcomes such as environmentally responsible behaviors and organizational citizenship behaviors. Green Human Resource Management seeks to promote environmental sustainability by involving employees in environmental management initiatives (Pham et al., 2019).

Job engagement, a concept that gained prominence in the 1990s particularly through the Gallup Organization, represents a hopeful state of psychological well-being in the workplace. This construct stands in contrast to job burnout and is characterized by high levels of energy and enthusiastic involvement in work activities (Buckingham & Coffman, 2014).

Job engagement is defined by vigor and a profound connection to one's work. May and Schneider have identified various types of job engagement, including trait-based engagement associated with

**The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance**

proactive personality, state engagement related to situational involvement, and behavioral engagement encompassing organizational citizenship behaviors. It has been suggested that individuals sharing similar characteristics, such as inherent positive affectivity and proactive personality traits, are more likely to exhibit engagement within comparable work environments. Job resources such as social support, performance feedback, autonomy, and learning opportunities have consistently demonstrated positive associations with job engagement (Halbesleben, 2010). Kahn (1999) described job engagement as a dynamic construct influenced by meaningfulness, psychological safety, and availability, which may vary according to managerial interventions such as internal communication practices. Job engagement comprises three components: dedication, absorption in work, and vigor. Welch (2019) examined the psychological conditions associated with engagement and integrated these components into a conceptual model for the present study. The manufacturing sector constitutes the backbone of most economies, contributing significantly to gross domestic product and employment generation. Conducting research within this sector can address critical economic issues such as enhancing productivity, reducing operational costs, and improving efficiency, which carry extensive implications for economic growth and stability. Manufacturing involves complex processes, supply chains, and logistics systems. Research in this context can explore methods for optimizing operations, streamlining production processes, and minimizing resource waste. Advancements in operational efficiency directly influence organizational competitiveness and profitability. Furthermore, many manufacturing processes entail environmental impacts. A study focused on the manufacturing sector can emphasize the implementation of sustainable practices, reduction of carbon footprints, and minimization of ecological consequences, aligning with global emphasis on responsible and sustainable business practices. Additionally, the diverse workforce present in the manufacturing sector provides opportunities to examine human resource management strategies, which can yield valuable insights. Research addressing areas such as employee engagement, equity in performance evaluations, and managerial support can contribute to understanding effective human resource strategies within manufacturing contexts.

Based on research conducted by Aboramadan (2022), Green Human Resource Management enhances employees' green engagement, green behaviors, and other non-environmental work outcomes. Drawing upon the Ability-Motivation-Opportunity (AMO) framework, several researchers have investigated Green Human Resource Management practices aimed at improving employees' skills, motivations, and opportunities, thereby enhancing organizational performance. However, senior management support plays a critical mediating role in the relationship between employee performance and Green Human Resource Management. Despite the significance of this topic, limited studies have examined factors influencing attributions of Human Resource Management performance. Moreover, the literature on Green Human Resource Management remains in its nascent stages, with scant research addressing the effects of Green Human Resource Management on non-environmental attitudinal and behavioral outcomes.

Accordingly, this study aims to investigate the impact of Green Human Resource Management on job engagement, considering the mediating roles of managerial support and Human Resource Management performance, within the context of Mobarakeh Steel Company.

## **2. Theoretical Foundations and Research Background Green Human Resource Management**

In highly competitive markets, organizational managers increasingly recognize that environmental conservation and the promotion of employees' pro-environmental behaviors are critical indicators of organizational success and long-term sustainability. Corporate investment in ecological sustainability is deeply intertwined with human resource management practices within the organization (Sharma et al., 2020). Given the widespread adoption of green management across diverse organizational contexts, HRM has evolved into several recognized typologies. Prominent examples include the Harvard model, the Standard Causality model, the Fombrun model, the Eight-Boxes model, among others.

Conceptually, green HRM refers to the systematic integration of environmental management components and positive ecological outcomes into HRM strategies, policies, and operational processes. Dumont (2015) posits that GHRM encompasses four core dimensions: green culture, green strategy, green support, and green process. Following its implementation over a defined period, GHRM emerges as a continuous event and an evolving stream within the broader green management process in HRM. The incorporation of environmental considerations is neither straightforward nor simplistic; rather, it constitutes a complex, transformative process that unfolds over time.

GHRM represents the deliberate and systematic alignment of conventional HRM practices with an organization's environmental objectives (Jabbour, 2013). Green HRM practices, which are linked to an organization's voluntary environmental conservation initiatives, strengthen employees' perceptions of organizational support for ecological sustainability (Aboramadan & Karatepe, 2021). As organizations develop their knowledge and competencies regarding environmental sustainability and green transformation, employees demonstrate positive work-related outcomes, including both green and non-green behaviors (e.g., pro-environmental actions and reduced turnover intention, the latter being classified as a non-green behavioral outcome) (Karatepe et al., 2022).

GHRM manifests across multiple HRM functional domains. Specifically, the implementation of green training programs enables organizations to operationalize their environmental conservation initiatives and foster the internalization of green behaviors among employees. In this context, environmental sustainability strategies are more effectively executed, leading to enhanced HRM productivity and overall organizational effectiveness (Diana et al., 2017; Pinzon et al., 2019). Such training programs significantly expand employees' knowledge and awareness regarding green management practices and environmental stewardship.

Furthermore, green HRM initiatives can be systematically integrated into the recruitment and selection process, with a deliberate focus on green selection criteria. The application of rigorous, environmentally aligned selection standards facilitates the identification of candidates who exhibit high environmental sensitivity and possess substantive knowledge of green management and ecological issues (Nisar et al., 2021). Similarly, the implementation of a well-structured green performance appraisal system encourages employees to actively pursue and achieve organizational environmental objectives (Mousa & Othman, 2020).

Within the compensation and rewards domain of GHRM, formally recognizing and incentivizing employees for environmental initiatives motivates them to contribute meaningfully to the attainment of organizational ecological goals. Without a fair and transparent green performance evaluation mechanism, coupled with appropriate rewards for pro-environmental behaviors, organizations are unlikely to achieve their sustainability and environmental targets. Additionally, in the realm of knowledge management, facilitating green information sharing within the company is essential to ensure that employees who can potentially contribute to environmental sustainability programs are fully informed about organizational investments and initiatives in the green domain. Collectively, these integrated practices demonstrate that GHRM plays a pivotal role in empowering organizations to systematically achieve their environmental and sustainability objectives (Abda-García et al., 2020).

### **Job Engagement**

William Kahn (1990), recognized as the pioneering scholar in the domain of job engagement, defined this construct as the harnessing of organization members' complete selves in the performance of their work roles. Individuals, when enacting their roles, express or employ their physical, cognitive, and emotional dimensions with a sense of personal attachment. Job engagement comprises three interrelated dimensions: vigor, dedication, and absorption. The first dimension, vigor, refers to high levels of energy and mental resilience exhibited by employees during work activities. In this state, employees demonstrate considerable effort in task execution and exhibit persistence and resilience when confronting challenging work situations or obstacles. Employees characterized by high vigor are primarily motivated by the intrinsic qualities of their work; consequently, this dimension is conceptually analogous to intrinsic motivation (Schaufeli et al., 2015).

Dedication, the second dimension of job engagement, is characterized by an individual's psychological attachment to their work. This dimension encompasses experiences of significance, enthusiasm, pride, and the perception of work as a meaningful challenge. The third dimension, absorption, denotes a state of deep concentration and complete immersion in work activities. In this condition, time passes rapidly for individuals, and they find it difficult to detach themselves from their tasks. Individuals in this state become intensely involved in their work because the experience is inherently rewarding and enjoyable (Alessandri et al., 2015).

**The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance**

In contemporary organizational research, job engagement has garnered significant scholarly attention as a pivotal determinant of organizational success. Investigating the antecedents that foster greater employee attachment and involvement has become a central concern for human resource management scholars. Employees exhibiting higher levels of job engagement demonstrate greater enthusiasm toward their work and are perceived as sources of energy and inspiration for their colleagues. Overall, prior empirical research has underscored the critical role that job engagement plays in enhancing both individual job performance and broader organizational outcomes (Shuck et al., 2013). Job engagement has been conceptualized as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption. Furthermore, researchers have posited that job engagement reflects employees' inclination to contribute actively to organizational success and their readiness to undertake tasks essential for achieving strategic objectives. Such individuals exhibit cognitive and emotional involvement with their work and demonstrate greater psychological stability. Conversely, employees lacking job engagement tend to exhibit higher rates of absenteeism, display negative workplace behaviors, and are more likely to engage in unethical conduct (Aboramadan et al., 2020). Job engagement is conceptually distinct from related constructs such as organizational commitment and job satisfaction. More precisely, job engagement manifests in observable work behaviors, whereas organizational commitment primarily pertains to employees' subjective work experiences, and job satisfaction represents an attitudinal evaluation of one's job (Aboramadan et al., 2020).

**Human Resource Management Performance**

Contemporary organizations have increasingly recognized human capital as their most valuable asset for achieving sustainable competitive advantage. Consequently, competition to attract and retain talented employees has intensified, with organizations offering diverse welfare programs and placing greater emphasis on addressing employees' evolving needs. Illustrating this trend, *Fortune* magazine has, in recent years, highlighted the "100 Best Companies to Work For," recognizing organizations that provide exemplary working conditions for their workforce. In response to this competitive landscape, organizations are making substantial investments in employee welfare initiatives and support systems to cultivate more conducive and supportive work environments (Riggle et al., 2019).

Human resource management constitutes a fundamental responsibility of line management across all organizational levels, with managers at various hierarchical tiers sharing accountability for human capital-related functions. Accordingly, human resource management is conceptualized as the strategic utilization of an organization's human capital to achieve its overarching goals and objectives. Effective human resource management performance is evaluated based on the extent to which HR practices contribute to enhancing employee capabilities, motivation, and opportunities, thereby driving organizational effectiveness and sustainability.

### **Managerial Support**

Organizational support is defined as employees' shared belief that the organization values their contributions and cares about their well-being in the workplace. This perception fosters a sense of assurance among employees that the organization will continue to provide backing even during stressful or demanding work conditions. Such organizational support cultivates feelings of psychological safety and strengthens employees' affective commitment to the organization. The construct of perceived organizational support is grounded in social exchange theory, which posits that employees develop global perceptions regarding the extent to which the organization values their needs and contributions based on their interactions with supervisors and organizational representatives (Berta, 2015). Several decades ago, discussions surrounding employee welfare programs were less prevalent than they are today. However, contemporary organizations have increasingly recognized that investments in employee support yield not only direct economic returns but also contribute to enhanced job satisfaction, reduced absenteeism and turnover, and ultimately, improved organizational performance. Empirical research has consistently substantiated the benefits of employee support initiatives. For instance, findings from a meta-analytic study conducted in 2009 demonstrated that organizational support can significantly increase employee commitment, reduce turnover intentions, and enhance both job satisfaction and performance to meaningful degrees (Eisenberger, 2018).

### **Conceptual Model**

Based on the theoretical foundations and empirical evidence reviewed above, the conceptual model for the present study is designed as illustrated in Figure 1. The model posits that Green Human Resource Management exerts both direct and indirect effects on Job Engagement. Specifically, Managerial Support and Human Resource Management Performance are hypothesized to serve as mediating mechanisms through which Green Human Resource Management influences employees' levels of job engagement. The indirect effects are expected to complement and potentially exceed the magnitude of the direct effect, highlighting the importance of these intermediary pathways in understanding the relationship between environmentally oriented HR practices and employee engagement outcomes (Gupta & Jangra, 2023).

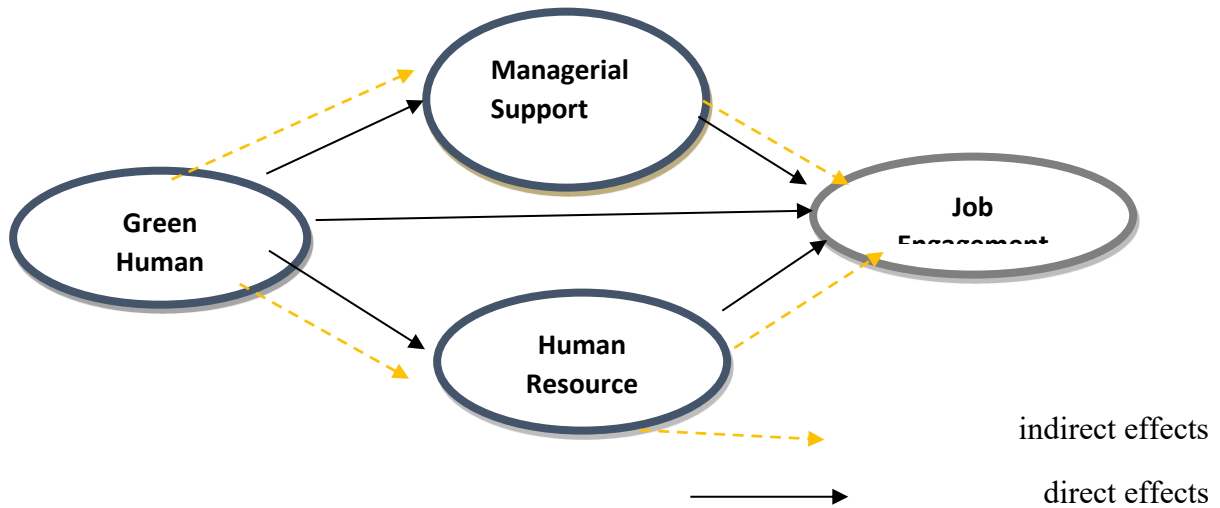


Figure 1. Conceptual Model of the Study: Gupta and Jangra (2023).

Prior empirical studies in this domain can be broadly categorized into two distinct streams. The first stream encompasses research that has examined the antecedents of perceived organizational support. In these investigations, perceived organizational support has been treated as a dependent variable, with scholars identifying and analyzing the factors that strengthen employees' sense of being supported within the workplace. In essence, these studies have focused on organizational initiatives and practices designed to foster employees' perceptions that they are valued and cared for by their employer. The second stream comprises research that has explored the consequences of perceived organizational support. In these studies, researchers have sought to demonstrate the positive outcomes associated with employee support for both individual employees and the organization as a whole. Such research has evaluated the impact of perceived organizational support on variables of strategic importance to organizational effectiveness, including job performance, commitment, and retention.

Gupta and Jangra (2023) conducted a study titled "Green Human Resource Management and Work Engagement: Linking HRM Performance Attributions." Their findings provide valuable insights for organizations aiming to enhance employee engagement and HRM performance attributions through the strategic integration of Green Human Resource Management (GHRM) practices. The study underscores the mediating role of HRM performance attributions in translating environmentally oriented HR practices into heightened levels of employee work engagement.

Baykal and Bayraktar (2022) carried out research entitled "Green Human Resource Management: A Novel Tool to Boost Work Engagement." Their results supported the proposed hypotheses and, while confirming social identity theory, demonstrated the presence of a mediating effect in the relationship between Green Human Resource Management (GHRM) and employees' job engagement. These findings illuminate the significance of GHRM in shaping employees' positive

attitudes toward their organization and highlight its potential as a strategic lever for fostering psychological attachment to work.

Gim et al. (2022) conducted a study titled "Green Human Resource Management, Leader-Member Exchange, Core Self-Evaluations and Work Engagement: The Mediating Role of Human Resource Management Performance Attributions." The results indicated that Green Human Resource Management (GHRM) and the quality of leader-member exchange (LMX) were positively associated with HRM performance attributions designed to enhance employee performance. However, core self-evaluations (CSE) did not demonstrate a significant relationship with HRM performance attributions. Consequently, HRM performance attributions were positively linked to work engagement. Furthermore, both GHRM and LMX exerted positive indirect effects on work engagement through HRM performance attributions as a mediating mechanism, highlighting the importance of employees' causal interpretations of HR practices in understanding engagement outcomes.

Dimitrova (2021) conducted research entitled "Green Human Resource Management: Linking and Leveraging Green Practices for Sustainable Business Organizations." The key findings identified and highlighted several green HRM approaches, including green recruitment, selection, and hiring; green learning, training, and development; green performance management and appraisal systems; comprehensive green reward systems; and other complementary methodologies. The study emphasizes the integrative nature of GHRM as a strategic framework for advancing organizational sustainability objectives.

Ari et al. (2020) carried out a study titled "A Conceptual Model for Green Human Resource Management: Indicators, Differential Pathways, and Multiple Pro-Environmental Outcomes." In addition, their systematic review of the relevant literature highlighted eight key indicators of GHRM: green employee selection, green training, green empowerment, green rewards, green career opportunities, green teamwork, green work-life balance, and green participation in decision-making. These indicators collectively provide a comprehensive framework for understanding how environmentally oriented HR practices can be operationalized to foster both ecological and organizational outcomes.

### **3. Research Methodology**

In terms of research purpose, this study is classified as applied research. Regarding data collection and research design, it adopts a descriptive-correlational methodology, specifically grounded in Structural Equation Modeling (SEM). The statistical population comprises all employees of Mobarakeh Steel Company in Tehran, totaling approximately 540 individuals. Using Morgan's sample size table, the required sample was determined to be 224 participants. A non-probability convenience sampling technique was employed for participant selection.

Data were collected using a researcher-developed questionnaire designed specifically to examine the impact of Green Human Resource Management on job engagement, with the mediating roles of managerial support and Human Resource Management performance. The instrument employs

a five-point Likert scale, requiring respondents to indicate their level of agreement or disagreement with each statement, ranging from "strongly disagree" to "strongly agree." Based on the Cronbach's alpha values presented in the accompanying table, it can be concluded that the questionnaire demonstrates adequate reliability. Furthermore, regarding validity, since the instrument was reviewed and validated by subject-matter experts in human resources and environmental management, its content validity has been formally established.

In this study, SPSS software was utilized for descriptive statistical analysis, while SmartPLS software was employed for inferential analysis and structural model testing. The validity of the measurement instrument was assessed through three established approaches:

Content validity, confirmed through expert review by academic supervisors, advisors, and domain specialists; Convergent validity, evaluated using the Average Variance Extracted (AVE) criterion in SmartPLS; and Discriminant validity, assessed using the Fornell-Larcker criterion in SmartPLS.

Reliability was examined using two complementary metrics:

Cronbach's alpha coefficient, calculated via SPSS, and Composite Reliability (CR) (Dillon-Goldstein's rho), computed using SmartPLS.

Finally, to test the proposed research hypotheses, Structural Equation Modeling (SEM) was conducted using the SmartPLS software package, which is widely recognized for its suitability in handling complex mediation models and non-normal data distributions in organizational research.

#### 4. Findings

The statistical analyses conducted in this chapter encompass both *descriptive analysis* and *inferential analysis*, which are presented sequentially below. The overarching conclusion indicates that all research variables demonstrate favorable status with respect to population mean values. Following the examination of regression assumptions, the results concerning the significance of regression coefficients between Green Human Resource Management and managerial support are presented in the tables below.

**Hypothesis 1:** Green Human Resource Management has a positive effect on managerial support. The variable entered into the regression equation constitutes the core component of the regression analysis. The significance level of the *t*-test associated with the regression coefficients for the independent variable (Green Human Resource Management) is reported in this table. The obtained significance value is  $p < .001$ , indicating that Green Human Resource Management exerts a statistically significant effect on managerial support. Specifically, a one-unit increase in Green Human Resource Management corresponds to a 0.577-unit increase in managerial support. Consequently, a positive and significant relationship exists between these variables, providing empirical support for the first research hypothesis.

*Table 1. Significance of Regression Coefficients between Green Human Resource Management and Managerial Support*

The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>Sig.</i>
	<i>B</i>	Std. Error	Beta		
1	(Constant)	1.559	.192		8.107
	Green Human Resource Management	.557	.053	.577	10.535

**Hypothesis 2:** Green Human Resource Management has a positive effect on job engagement.

The variable entered into the regression equation represents the central element of the regression analysis. The significance level of the *t*-test for the regression coefficients associated with the independent variable (Green Human Resource Management) is reported in this table. The obtained significance value is  $p < .001$ , indicating that Green Human Resource Management exerts a statistically significant effect on job engagement. Specifically, a one-unit increase in Green Human Resource Management corresponds to a 0.608-unit increase in job engagement. Consequently, a positive and significant relationship exists between these variables, providing empirical support for the second research hypothesis.

Table 2. Significance of Regression Coefficients between Green Human Resource Management and Job Engagement

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>Sig.</i>
	<i>B</i>	Std. Error	Beta		
1	(Constant)	1.302	.193		6.744
	Green Human Resource Management	.605	.053	.608	11.399

**Hypothesis 3:** Green Human Resource Management has a positive effect on Human Resource Management performance.

The variable entered into the regression equation constitutes the fundamental component of the regression analysis. The significance level of the *t*-test for the regression coefficients associated with the independent variable (Green Human Resource Management) is reported in this table. The obtained significance value is  $p < .001$ , indicating that Green Human Resource Management exerts a statistically significant effect on Human Resource Management performance. Specifically, a one-unit increase in Green Human Resource Management corresponds to a 0.598-unit increase in Human Resource Management performance. Consequently, a positive and significant relationship exists between these variables, providing empirical support for the third research hypothesis.

**The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance**

*Table 3. Significance of Regression Coefficients between Green Human Resource Management and Human Resource Management Performance*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	1.346	.200		6.714
	Green Human Resource Management	.612	.055	.598	11.115

**Hypothesis 4:** Managerial support has a positive effect on job engagement.

The variable entered into the regression equation constitutes the core component of the regression analysis. The significance level of the *t*-test associated with the regression coefficients for the independent variable (managerial support) is reported in this table. The obtained significance value is  $p < .001$ , indicating that managerial support exerts a statistically significant effect on job engagement. Specifically, a one-unit increase in managerial support corresponds to a 0.242-unit increase in job engagement. Consequently, a positive and significant relationship exists between these variables, providing empirical support for the fourth research hypothesis.

*Table 4. Significance of Regression Coefficients between Managerial Support and Job Engagement*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	2.576	.243		10.621
	Managerial Support	.250	.067	.242	3.724

**Hypothesis 5:** Human Resource Management performance has a positive effect on job engagement.

The variable entered into the regression equation represents the central element of the regression analysis. The significance level of the *t*-test for the regression coefficients associated with the independent variable (Human Resource Management performance) is reported in this table. The obtained significance value is  $p < .001$ , indicating that Human Resource Management performance exerts a statistically significant effect on job engagement. Specifically, a one-unit increase in Human Resource Management performance corresponds to a 0.328-unit increase in job engagement. Consequently, a positive and significant relationship exists between these variables, providing empirical support for the fifth research hypothesis.

*Table 5. Significance of Regression Coefficients between Human Resource Management Performance and Job Engagement*

The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	2.339	.222		10.534
	Human Resource Management Performance	.318	.062	.328	5.165

**Hypothesis 6:** Managerial support plays a mediating role in the relationship between Green Human Resource Management and job engagement.

*Table 6. Examination of the Sixth Research Hypothesis*

Path	Path Coefficient	Correlation Value	Test Result
Direct effect of Green Human Resource Management on Job Engagement	0.037	0.285	Supported
Indirect effect of Green Human Resource Management on Job Engagement via Managerial Support	0.525	—	—

As indicated in Table 6, the structural model of the study demonstrates acceptable fit among the research variables. The direct effect of Green Human Resource Management on job engagement was estimated at 0.037. However, when managerial support is introduced as a mediating variable in the model, the indirect effect coefficient is estimated at 0.525, which exceeds the magnitude of the direct effect. This pattern of results indicates that managerial support serves as a significant mediating mechanism in the relationship between Green Human Resource Management and job engagement. Accordingly, the sixth research hypothesis is supported.

**Hypothesis 7:** Human Resource Management performance plays a mediating role in the relationship between Green Human Resource Management and job engagement.

*Table 7. Examination of the Seventh Research Hypothesis*

Path	Path Coefficient	Correlation Value	Test Result
Direct effect of Green Human Resource Management on Job Engagement	0.159	0.304	Supported
Indirect effect of Green Human Resource Management on Job Engagement via Human Resource Management Performance	0.473	—	—

## The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance

As shown in Table 7, the structural model exhibits satisfactory fit among the investigated variables. The direct effect of Green Human Resource Management on job engagement was estimated at 0.159. However, when Human Resource Management performance is incorporated as a mediating variable in the model, the indirect effect coefficient is estimated at 0.473, which surpasses the magnitude of the direct effect. These findings suggest that Human Resource Management performance functions as a significant mediating mechanism in the association between Green Human Resource Management and job engagement. Consequently, the seventh research hypothesis is supported.

*Table 8. Summary of Hypothesis Testing Results*

Hypothesis	Relationship	Result
H1	Green HRM → Managerial Support	Supported
H2	Green HRM → Job Engagement	Supported
H3	Green HRM → HRM Performance	Supported
H4	Managerial Support → Job Engagement	Supported
H5	HRM Performance → Job Engagement	Supported
H6	Managerial Support mediates Green HRM → Job Engagement	Supported
H7	HRM Performance mediates Green HRM → Job Engagement	Supported

### 5. Discussion and Conclusion

This study examined one primary hypothesis and ten sub-hypotheses using descriptive and inferential statistical techniques. The results of the hypothesis tests indicated that Green Human Resource Management (GHRM) exerts a significant positive effect on managerial support. Specifically, a one-unit increase in GHRM corresponds to a 0.577-unit increase in managerial support, reflecting a positive and statistically significant relationship. Accordingly, the first research hypothesis is supported. Furthermore, GHRM demonstrates a significant positive effect on job engagement. A one-unit increase in GHRM leads to a 0.608-unit increase in job engagement, confirming a positive and significant association and supporting the second hypothesis. Additionally, GHRM positively influences Human Resource Management (HRM) performance. A one-unit increase in GHRM results in a 0.598-unit increase in HRM performance, indicating a positive and significant relationship and supporting the third hypothesis.

Moreover, managerial support has a significant positive effect on job engagement. A one-unit increase in managerial support corresponds to a 0.242-unit increase in job engagement, confirming a positive and significant relationship and supporting the fourth hypothesis. Similarly, HRM performance positively affects job engagement. A one-unit increase in HRM performance leads to a 0.328-unit increase in job engagement, demonstrating a positive and significant association and supporting the fifth hypothesis.

The analysis further revealed that the direct effect of GHRM on job engagement was estimated at 0.037. However, when managerial support was introduced as a mediating variable in the structural model, the indirect effect coefficient was calculated at 0.525, which exceeds the magnitude of the direct effect. This pattern indicates that managerial support serves as a significant mediating mechanism in the relationship between GHRM and job engagement. Accordingly, the sixth hypothesis is supported. Likewise, the direct effect of GHRM on job engagement was estimated at 0.159. When HRM performance was incorporated as a mediator, the indirect effect coefficient was found to be 0.473, which surpasses the direct effect. This demonstrates that HRM performance plays a mediating role between GHRM and job engagement. Consequently, the seventh hypothesis is supported.

These empirical findings align closely with the results of prior studies conducted by Gupta and Jangra (2023), Baykal and Bayraktar (2022), Gim et al. (2022), Dimitrova (2021), and Ari et al. (2020). Based on these results, it is recommended that organizations formally integrate green HRM policies—such as sustainability-oriented recruitment and training, green performance appraisal systems, and environmental incentive structures—into their core human resource processes. Senior and middle managers should actively champion GHRM initiatives by allocating necessary resources, facilitating transparent communication, and fostering an open environment that encourages employee participation, thereby creating conditions conducive to job engagement. Through targeted workshops, continuous training programs, and internal awareness campaigns, employees' understanding of the strategic importance and benefits of green HRM practices should be enhanced, which in turn can strengthen their sense of organizational belonging and psychological engagement. HR departments should systematically measure and evaluate their sustainability performance using clear, actionable metrics and pursue continuous improvement. Finally, by establishing formal channels for employees to submit green initiatives and sustainability suggestions, organizations can elevate participatory levels and, consequently, foster deeper and more sustained job engagement.

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**The Impact of Green Human Resource Management on Job Engagement: The Mediating Roles of Managerial Support and Human Resource Management Performance**

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**ACKNOWLEDGMENTS**

The current study has not received any grant, fund or contribution from private or government institutions. Also, the authors declare that there is no conflict of interests

**ETHICAL CONSIDERATION**

Authenticity of the texts, honesty and fidelity has been observed.

**CONFLICT OF INTEREST**

Author/s confirmed no conflict of interest.