



Promoting Green HRM Practices and Sustainable Behaviors among Employees: Analyzing the Role of Employee Engagement and Ethical Leadership

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Abstract

Environmental sustainability has become a major issue in both policymaking and in the way businesses manage their operations. The sustainability of a business's operations is largely dependent upon its employees translating policy into daily practice. This is especially true for knowledge-based industries such as Information Technology (IT), where the workforce is responsible for implementing these policies. Green HR practices allow businesses to integrate environmental concerns into all aspects of their employee management; i.e., hiring, development, performance management, evaluation, employee participation, and compensation. However, simply having green HR practices does not guarantee that employees will act sustainably. Therefore, this study investigates the impact of green HR practices on employee sustainable behaviors (ESBs). Additionally, this study explores the mediating role of employee engagement in the relationship between green HR practices and ESBs and how ethical leadership moderates the relationship between employee engagement and ESBs. A quantitative, cross-sectional research methodology was employed to collect primary data from 154 IT employees located in the Delhi-NCR area via a structured questionnaire. Convenience sampling was utilized to obtain the sample. The data collected were analyzed using SmartPLS 4. The findings indicate that GHRM practices have a significant positive effect on Employee Engagement ($\beta = 0.163$, $p < 0.05$) and Employee Sustainable Behavior ($\beta = 0.184$, $p < 0.05$). Employee Engagement also has a significant positive influence on Employee Sustainable Behavior ($\beta = 0.262$, $p < 0.01$).

The indirect influence of GHRM on ESB via Employee Engagement was favourable; however statistically insignificant. The moderating role of Ethical Leadership on the connection between GHRM and Employee Engagement is significant ($\beta = 0.228$, $p < 0.01$). This shows that ethical leadership increases the efficiency of the GHRM initiatives in enhancing employee engagement. In this way, the paper contributes to the development of sustainable HRM theory through establishing an empirical link between GHRM and sustainable employee behavior. The results indicate that organisations ought to amalgamate formal green HR frameworks with ethical and sustainability-oriented leadership to foster environmentally responsible conduct.

Keywords: Green Human Resource Management, Employee Sustainable Behavior, Employee Engagement, Ethical Leadership, Sustainability, IT Sector, PLS-SEM

Introduction

Due to environmental deterioration, climate change, resource constraints, and rising stakeholder expectations, sustainability has become a strategic issue for organisations. Organisations are increasingly being called upon to reduce their environmental impact and to put in place internal systems so that staff are completely involved in sustainability endeavours. This change has increased the importance of Human Resource Management (HRM) as it is the employees who will ultimately put the organisational policies into practice and translate formal sustainability objectives into activities in the workplace. Green Human Resource Management (GHRM) has been emerged as a significant research area in sustainable HRM in this context. GHRM is a generic term for the

integration of environmental issues into HR policy and procedures. This integration can be achieved by including varied policies like adopting green and sustainable practices during the recruitment process, by laying emphasis on environmental training of the employees, green performance management, environment-based rewards, employee participation in sustainability activities, and development of a workplace culture to promote environmental responsibility. HRM and organisational environmental management. Renwick, Redman and Maguire (2013) have developed a useful framework for how HRM may contribute to organisational environmental management.

The importance of GHRM is well exemplified by the IT sector in particular. While IT organisations may

not have the same direct environmental impact as manufacturing organisations, they do have significant energy usage, electronic devices, data centers, business travel, and resource use associated with technology. Meanwhile, IT staff have a lot of independence and expertise, and their day-to-day decisions are vital to the viability of the organization. Decisions about energy efficiency, paper reduction, smart use of technology, waste disposal, transportation habits and participation in green programs, taken together, may improve the sustainability of an organization.

In recent years, the correlation between GHRM and employees' environmentally conscious or sustainable behaviour has been studied increasingly. Chaudhary (2020) has demonstrated the significance of Green Human Resource Management (GHRM) in fostering environmentally friendly employee behaviour, emphasising organisational identification along with personal environmental values. Similarly, empirical studies have shown that employee environmentally conscious behaviour is a complex phenomenon influenced by personal, organisational, and contextual elements (Tang et al., 2023). Recent empirical evidence has suggested that GHRM may be able to increase green work engagement and employee behaviour, but the processes and limitations surrounding these links continue to be a major area of research.

Employee Sustainable Behaviour (ESB) is of particular importance as organisational sustainability cannot be achieved only by means of formal policies. Sustainability rests on the voluntary adoption of responsible environmental practices into the routine work behaviour of employees. Thus, it is important for scholars and practitioners to understand how HR systems impact such behaviour. One such mechanism is Employee Engagement. Engaged employees put their cognitive, emotional, and behavioural energy into their work. Organisational practices that are perceived as meaningful and compatible with employees' values can increase psychological involvement in organisational initiatives. GHRM can be a potential indicator that environmental responsibility is a genuine organisational priority, motivating employees to participate more in activities related to sustainability.

However, the relationship between GHRM and employee engagement may be conditional on the organisational leadership environment. Formal HR practices may indicate desired behaviour, but leaders are the ones who provide employees with immediate social and behavioural cues. Ethical leaders stress fairness, integrity, responsibility, transparency, and proper behaviour. Organisational leaders' ethical and environmental responsibility may increase the perceived fit between organisational policies and actual managerial behaviour by employees. This consistency may

enhance the impact of GHRM practices on employee engagement.

In view of this, the present study integrates GHRM, Employee Engagement, Employee Sustainable Behaviour and Ethical Leadership in one conceptual framework. Specifically, the research investigates the direct influence of GHRM on ESB, the mediating role of Employee Engagement, and the moderating effect of Ethical Leadership on the GHRM-Employee Engagement relationship.

The empirical study is conducted in IT organisations in Delhi-NCR. As stated in the uploaded research abstract, data were collected from 154 employees through a structured questionnaire and analysed through SmartPLS 4. The results show significant direct relationships between GHRM, Employee Engagement, and ESB, but the proposed mediation through Employee Engagement was not statistically significant. However, Ethical Leadership significantly moderated the GHRM-Employee Engagement link.

Review of Literature

Green Human Resource Management

The concept of Green Human Resource Management (GHRM) is integrated with environmentally friendly strategies into human resource management (HRM) systems. Conventional HRM is concerned with the recruitment, training, motivation, and retention of human resources, whereas GHRM involves the addition of environment-related goals to these processes. Renwick, Maguire, and Speciale (2013) define GHRM in reference to the fundamental human resource management processes such as recruitment, training, performance appraisal, and rewards. The basic assumption is that inclusion of environment-related goals in HR systems motivates and trains employees for environmental objectives of an organization.

There are many ways through which green human resource management (GHRM) affects the conduct of employees. Green recruitment is used to recruit individuals who are concerned about environmental issues. Green training helps the employees learn how to behave sustainably. Green rewards are used to reward employees whose behavior is favorable to the environment while green performance management tells employees what the company expects from them regarding the environment. Employee participation mechanisms allow employees to come up with ideas and get involved in sustainability programs. The importance of GHRM lies in its ability to make environmental sustainability an integral part of business practice. Instead of treating sustainability as the responsibility of a specialized environmental department, organizations can distribute responsibility across the workforce.

Empirical studies generally support the positive relationship between employee environmental

behaviour and GHRM. Chaudhary (2020) found that GHRM impacts employee green behaviour and that this relationship can be influenced by psychological and individual-level factors. More recent work has examined the behavioural mechanisms through which green HR practices influence employee outcomes.

Another empirical study in 2023 suggested that green leadership and GHRM had a positive impact on green work engagement, and green organisational culture played a critical role in these relationships. Similarly, recent evidence from Indian organisations indicates that GHRM can influence employee behaviour through psychological and organisational mechanisms.

Employee Sustainable Behavior

Employee Sustainable Behaviour is defined as actions and efforts that employees undertake to support the environmental and broader sustainability goals of an organization. Such behaviour may include, but is not limited to, reducing unnecessary resource consumption, conserving energy, minimising waste, participating in organisational sustainability initiatives and encouraging environmentally responsible practices among colleagues.

The concept of sustainable employee behaviour pertains to the broader idea of employee green conduct, which encompasses a more extensive array of acts. Tang et al. (2023) highlighted that the existing literature on employee green behaviour is fragmented in their examination of research on this topic, noting that such behaviour is influenced by several organisational and individual factors.

The organisation's formal environmental rules for its employees are quite different from what the employees actually do. An organization can have a strong sustainability strategy, but if employees don't integrate sustainability into their daily work routines, its impact would be undermined. Hence, organisations require mechanisms that can translate environmental objectives into staff actions.

GHRM can do this by communicating environmental standards and upgrading the skills and motivation of the staff. Embedding sustainability into hiring, training, performance appraisals, and incentives serves to constantly remind employees that responsibility for the environment is a core organisational priority and is a key organisational focus.

GHRM and Employee Sustainable Behavior

GHRM provides employees with environmental knowledge, incentives, and opportunities to engage in sustainable activities. Green training can increase environmental awareness, green performance management can clarify expectations, and green rewards can reinforce environmentally responsible actions.

From the viewpoint of social exchange theory (Blau,

1964), employees could react favourably to organisational investments by reciprocating with actions that align with organisational goals. When employees recognise that the organization is undertaking significant initiatives for sustainability, they may be motivated and encouraged to take part in achieving those goals. Empirical data corroborates this underlying association. Chaudhary (2020) discovered a correlation between GHRM and sustainable employee conduct. More recent research continues to report positive effects of GHRM on employee behaviour sustainability-related outcomes.

Accordingly, the following hypothesis is proposed:

H1: Green Human Resource Management practices significantly and positively affect Employee Sustainable Behaviour.

Employee Engagement

Employee Engagement is the degree to which individuals devote themselves physically, mentally, and emotionally to their job roles. Kahn (1990) describes engagement as the psychological presence of employees in their role performance. Later research by Schaufeli and Bakker's (2010) conceptualised work engagement by vigour, devotion and absorption. Engaged employees are more inclined to take initiative, have tenacity, and participate actively. As such, participation may be particularly crucial for organisational sustainability, which typically entails employees going beyond basic compliance and willingly engaging in environmental actions.

GHRM may promote engagement by articulating the principles of the firm and by providing chances for employees to participate in initiatives that are important. Green recruiting and training can assist employees in grasping the organisational environmental objectives. Green engagement methods can provide employees with the opportunity to participate in sustainability-related choices.

Recently, green work involvement has been linked to GHRM. Tran (2023) also observed that GHRM and green leadership had a favourable effect on green work engagement.

GHRM and Employee Engagement

The relationship between GHRM and Employee Engagement can be explained through the signaling perspective. Organizational HR practices communicate what an organization values and expects from its employees. When environmental objectives are embedded into HR systems, employees receive signals that sustainability is an important organizational priority.

GHRM may also increase the meaningfulness of work. Employees who view their organizations as being devoted to environmental responsibility may experience greater congruence between personal values and organizational purpose. Such value

alignment can promote psychological participation and engagement. (Kim et al., 2019; Baykal & Bayraktar, 2022)

The present study therefore proposes:

H2: Green Human Resource Management practices have a significant positive effect on Employee Engagement.

Employee Engagement and Employee Sustainable Behavior

Engagement among employees can influence sustainable practices, given that committed workers are generally more predisposed to invest extra effort in achieving company goals. Sustainability initiatives encompass participation that surpasses formal responsibilities, such as suggesting resource-saving strategies, participating in environmental campaigns, or encouraging colleagues to adopt sustainable practices (Aboramadan, 2022; Albrecht et al., 2024). Engaged individuals are typically more attentive to organisational goals and more predisposed to exhibit proactive work behaviors. Thus, Employee Engagement can act as a behavioural channel that converts organisational HR strategies into lasting employee actions. Recent studies have reported positive relationships between engagement and sustainability-related employee behaviour (Pillai & Joseph, 2026).

The present study accordingly proposes:

H3: Employee Engagement has a significant positive effect on Employee Sustainable Behavior.

Mediating Role of Employee Engagement

The mediating relationship is hypothesised based on the notion that GHRM may first affect employees' psychological involvement and engagement, and thus an engaged employee may then be motivated towards sustainable behaviour.

While employee engagement is the psychological and behavioural response of employees to organisational structures and objectives, ESB is the sustainability-oriented behaviour that results. GHRM establishes and connects organizational structures with expectations.

In recent studies, GHRM has been more scrutinised as a mechanism that links to employee outcomes. For example, a research study conducted in 2026 (Kaur and Gupta, 2026) for an IT and IT-enabled services business based in India studied the mediating effect of green work engagement in the relationship between GHRM and green employee behaviour.

Based on this literature, the following hypothesis is proposed:

H4: Employee Engagement serves as a mediator in the relationship between Green Human Resource Management and Sustainable Behaviour of Employee.

Ethical Leadership

Ethical Leadership is a type of leadership described by appropriate conduct, fairness, integrity, openness, accountability and the active promotion of ethical conduct among subordinates. Brown, Treviño and Harrison (2005) have highlighted the significance of individual ethical action as well as the articulation and reinforcement of ethical ideas.

Ethical leaders impact employees not only through their formal influence, but also through modelling appropriate behaviour. Workers observe leadership behaviour and use that to identify organisational expectations. Where leaders consistently show responsible conduct, employees may perceive organisational sustainability efforts as authentic rather than symbolic. This matter holds particular significance for GHRM. If human resources policies are geared toward sustainability but managers disregard environmental responsibilities, employees realise that there is a disconnect between the organisation's declared values and its true practices. In contrast, ethical leadership may enhance the credibility of organisational policy.

Recent studies confirm the relevance of ethical leadership within the framework of sustainability-oriented organisational outcomes. Ren, Tang and Jackson (2021) found that the positive effect of Green Human Resource Management (GHRM) on environmental commitment was strengthened by ethical leadership of CEOs, which in turn improved environmental performance.

Moderating Role of Ethical Leadership

The present study proposes Ethical Leadership as a moderator of the relationship between GHRM and Employee Engagement. The rationale is that formal HR practices operate within a social context. Leaders can either strengthen or weaken the messages communicated through HR policies.

When ethical leadership is high, employees may perceive greater consistency between green HR policies and managerial behavior. Leaders who demonstrate integrity and environmental responsibility can reinforce the legitimacy of sustainability initiatives. As a result, GHRM may have a stronger effect on employee engagement.

When ethical leadership is weak, green HR practices may be perceived as administrative requirements rather than meaningful organizational values. Consequently, their capacity to generate employee engagement may be reduced.

The hypothesis is therefore:

H5: Ethical Leadership positively moderates the relationship between Green Human Resource Management practices and Employee Engagement, such that the relationship is stronger when Ethical Leadership is high.

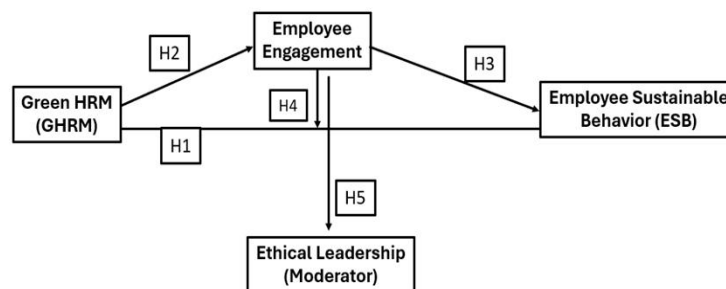


Figure 1.1: Proposed Model

Research Methodology

Research Design

nature as it aimed to explore the relationships between GHRM, Employee Engagement, Ethical Leadership and Employee Sustainable Behaviour in an experimental way. Data were gathered from the participants during a single period, making a cross-sectional research design appropriate for the study. Primary information was obtained directly from the respondents through a structured questionnaire. Respondents provided information relating to their perceptions of GHRM practices, Employee Engagement, Ethical Leadership, and Employee Sustainable Behavior. Participation in the study was entirely voluntary, and strict confidentiality was maintained in handling of the responses of the participants.

Research Context

The research was conducted among individuals who worked in information technology companies based in the Delhi NCR area. Information technology was selected as the industry to conduct the research in because of the nature of the industry being considered a knowledge-intensive industry in which the behavior of the employees is critical to sustaining sustainability efforts in the organization. In addition to this, the industry is well suited for conducting the study of GHRM since the employees operate in a technology-oriented working environment.

Population and Sample

The targeted group was made up of workers working in IT companies within the Delhi-NCR region. A total of 154 responses were received that were useful for analysis purposes. Convenience sampling was used in this study, and hence, individuals who could join the research process were included. This is clearly indicated in the abstract of the study.

Measures of the Study

The Likert scale that ranged from 1 = Strongly Disagree to 5 = Strongly Agree was used in the present research for the measurement of all the constructs outlined in the research framework. The questionnaire items were taken from the scales that existed in literature and wherever there was a need,

the items were adjusted according to the current research setting. These items were designed to measure Green HRM Practices, Employee Sustainable Behavior, Employee Engagement, and Ethical Leadership perceptions among employees.

Green HRM Practices

Green HRM Practices were measured using items adapted from Dumont et al. (2017) and informed by the GHRM framework of Renwick et al. (2013). The items covered organizational practices related to green recruitment, green training, green performance management, green rewards and employee involvement in environmental initiatives. Respondents rated statements reflecting the extent to which environmental considerations were incorporated into HR practices in their organization.

Employee Sustainable Behavior

Employee Sustainable Behavior was measured using items based on the literature on employee pro-environmental behaviour, particularly Ones and Dilchert (2012) and Norton et al. (2015). The items assessed employees' environmentally responsible behaviour at the workplace, including responsible use of resources, conservation of energy and materials, waste reduction and participation in activities supporting environmental sustainability.

Employee Engagement

Employee engagement was operationalised through the Utrecht Work Engagement Scale (UWES) proposed by Schaufeli et al. (2002). The measure evaluates work engagement across three dimensions: vigour, dedication, and absorption. Respondents were asked to indicate how closely each statement corresponded with their feelings, experiences, and level of involvement in their work.

Ethical Leadership

Ethical Leadership was measured using the Ethical Leadership Scale (ELS) developed by Brown et al. (2005). The items assessed employees' perceptions of their leaders' ethical conduct, including fairness, integrity, ethical role modelling, communication of ethical standards and consideration for employees.

Data Analysis

Data analysis was performed with SmartPLS 4 using the Partial Least Squares Structural Equation

Modeling (PLS-SEM) approach. The analysis examined the hypothesised associations among the study constructs and assessed the proposed mediating and moderating relationships within the research model. SmartPLS 4 was used to assess measurement and structural models. While the reliability and validity statistics establish the quality of the constructs, the proposed relationships in H1–H5 are evaluated through the structural model. Direct effects corresponding to H1–H3 are assessed using the magnitude and significance of the respective path coefficients. H4 is examined through the significance of the indirect effect of GHRM on ESB through Employee Engagement, whereas H5 is assessed through the significance and direction of the GHRM × Ethical Leadership interaction effect. Bootstrapping provides the basis for evaluating the statistical significance and confidence intervals of these structural relationships in PLS-SEM.

PLS-SEM is particularly appropriate for exploratory and prediction-oriented models involving multiple constructs and mediation or moderation relationships.

Results

Measurement Model Assessment

During the measurement model analysis, the measurement model was verified to determine the reliability and the convergent validity of the latent constructs, and the structural relationships were analysed. The constructs were evaluated by Cronbach's alpha (α), composite reliability (CR) and average variance extracted (AVE). The internal consistency of reflective constructs is commonly measured by the use of Cronbach's alpha and composite reliability in partial least squares structural equation modelling (PLS-SEM), while AVE is used as a proof of convergent validity. Reliability and AVE scores of 0.70 and 0.50 respectively are considered adequate for existing constructs (Hair et al., 2010).

Table X shows that the measurement model has satisfactory internal consistency for all four constructs. Cronbach's alphas vary from 0.861 to 0.903 showing high consistency of the indicators with the corresponding constructs. The reliability value for GHRM is 0.887, EE-0.861, EL- 0.903 and ESB-0.875 respectively. Therefore, it can be concluded that the measurement indicators measure the corresponding latent constructs consistently.

Further validation of the findings is provided by the composite reliability (CR) values, which are between 0.905 and 0.929. The CR for GHRM is 0.919 and the CR for EE, EL and ESB are 0.905, 0.929 and 0.911, respectively. The high and consistent values of CR indicate that the indicators are internally consistent (DeVellis, 2017). More importantly, the CR values do not exhibit any flaws in reliability due to inconsistency.

The convergent validity was assessed using the Average Variance Extracted (AVE). The AVE values for GHRM, EE, EL, and ESB are 0.657, 0.614, 0.685, and 0.633, respectively. Since all values are above the threshold of 0.50, it means that each construct is able to account for more than 50% of the variance in its indicators. The results thus indicate satisfactory indicator convergence on their respective constructs. Overall, the findings suggest that the measurement model is internally consistent, reliable, and convergently valid, and therefore provides a strong basis for further analysis of the structural model. What should be noted here is that the findings do not, by themselves, allow us to determine whether we should accept or reject H1-H5, but simply allow us to establish the construct quality of the measures used to test them. To test the hypotheses, it is necessary to perform an analysis of the structural model based on bootstrapped path coefficients, t-values, p-values, and confidence intervals. Bootstrapping is performed in PLS-SEM to test the statistical significance of the path estimates.

Table 1.1: Measurement model assessment

Construct	Cronbach's α	Composite Reliability (CR)	AVE	Interpretation
Green HRM (GHRM)	0.887	0.919	0.657	Reliable & valid
Employee Engagement (EE)	0.861	0.905	0.614	Reliable & valid
Ethical Leadership (EL)	0.903	0.929	0.685	Reliable & valid
Employee Sustainable Behavior (ESB)	0.875	0.911	0.633	Reliable & valid

Correlation Results

According to the findings from the correlation analysis, there exist positive correlations between GHRM, engagement, ethical leadership, and sustainable behavior of employees. These findings provide initial evidence on the validity of conceptual relationships.

Table 1.2: Correlation values between variables

Variables	M	SD	1	2	3	4
1. Green Human Resource Management (GHRM)	3.78	0.68	1			
2. Employee Engagement (EE)	3.85	0.64	.24*	1		
3. Employee Sustainable Behavior (ESB)	3.91	0.61	.21*	.22*	1	
4. Ethical Leadership (EL)	3.87	0.66	.28*	.19*	.25*	1

Positive significant correlation between the variables was reported in Correlation analysis. This is because GHRM had a statistically significant positive correlation with Employee Engagement ($r = .24, p < .05$) and Employee Sustainable Behavior ($r = .21, p < .05$); Employee Engagement, on the other hand, had a statistically significant strong positive correlation with Employee Sustainable Behavior ($r = .22, p < .05$). Ethical Leadership had statistically

significant positive correlations with GHRM ($r = .28, p < .05$), Employee Engagement ($r = .19, p < .01$), and Employee Sustainable Behavior ($r = .25, p < .05$). These results show a positive and statistically significant correlation between the constructs.

Direct Effects

The structural model produced significant positive relationships between the principal constructs.

Table 1.3: Direct effects with beta values

Relationship	β	Significance	Result
GHRM → Employee Engagement	0.163	$p < 0.05$	Supported
GHRM → Employee Sustainable Behavior	0.184	$p < 0.05$	Supported
Employee Engagement → Employee Sustainable Behavior	0.262	$p < 0.01$	Supported

The results demonstrate that GHRM has a statistically significant positive relationship with Employee Engagement. The coefficient of 0.163 indicates that higher levels of perceived GHRM practices are associated with higher Employee Engagement.

GHRM also has a significant positive relationship with Employee Sustainable Behavior ($\beta = 0.184, p < 0.05$). This finding provides direct empirical support for the argument that integrating environmental considerations into HR practices can encourage sustainable employee behavior.

Employee Engagement has the strongest of the three reported direct coefficients, with a positive relationship with Employee Sustainable Behavior ($\beta = 0.262, p < 0.01$). Thus, more engaged employees tend to demonstrate higher levels of sustainable behavior. These reported findings are consistent with the empirical results presented in the uploaded abstract.

Mediation Effect

The study proposed that Employee Engagement would mediate the relationship between GHRM and

Employee Sustainable Behavior.

The indirect effect of GHRM on ESB through Employee Engagement was positive. However, the indirect effect was not statistically significant. Consequently, the proposed mediation hypothesis was not supported.

This finding is theoretically important. The findings indicate that GHRM is positively related to employee engagement, while employee engagement is also positively related to employee sustainable behaviour (ESB). However, the results do not provide sufficient statistical evidence to confirm employee engagement as a significant mediating pathway through which GHRM influences ESB. Therefore, H4 is not supported. The result indicates that the direct effect of GHRM on sustainable behavior may be more important than the proposed engagement pathway in the present sample.

Moderation Effect of Ethical Leadership

Ethical Leadership was examined as a moderator of the relationship between GHRM and Employee Engagement.

The interaction effect was statistically significant at

$p < 0.01$ with $\beta = 0.228$.

The result indicates that Ethical Leadership significantly strengthens the relationship between GHRM and Employee Engagement. Thus, H5 is supported.

The finding suggests that the effectiveness of green HR practices depends partly on the leadership environment in which these practices are implemented.

Discussion

Several implications follow from the present findings about the interaction between green human resource management (GHRM) practices and sustainable employee behavior (ESB). First of all, the detected positive correlation between GHRM and ESB confirms the main postulate of the literature on green HRM – it is possible to integrate environmental responsibility into the HRM system and achieve environmentally oriented goals not only from the technical and operational but also from the conceptual perspective. This result is consistent with the previous research showing the connection between GHRM and green employee behavior. For example, according to Chaudhary (2020), GHRM has an impact on green employee behavior, and further research continues to follow this direction.

Secondly, the significant positive influence of GHRM on Employee Engagement shows that people perceive the integration of environmental aspects into HRM positively. In other words, this finding coincides with the recent developments of literature on GHRM and green work engagement. At the same time, the rather small coefficient of GHRM on Employee Engagement shows that green HRM practices are just one of the many determinants of the level of engagement (Anshima et al. 2025). Indeed, engagement is a multi-dimensional construct depending on the involvement of such factors as leadership, job factors, organizational factors, career development opportunities, meaningfulness, and interpersonal relationships. Third, Employee Engagement significantly predicts ESB. It is especially interesting since it proves that more psychological and behavioral commitment to the process of work is one of the key determinants of sustainable behavior of employees. Finally, the mediation model requires special attention to interpreting the results.

Although $\text{GHRM} \rightarrow \text{Employee Engagement}$ and $\text{Employee Engagement} \rightarrow \text{ESB}$ are significant, the indirect effect is not. Therefore, one cannot argue that engagement is the mediator of green HRM impact on sustainable behavior. This result contributes to the literature by challenging an assumption that positive relationships among individual paths automatically imply mediation. The findings further suggest that GHRM may influence sustainable behavior through mechanisms other than general employee engagement. Potential mechanisms for future research include

environmental awareness, green organizational identity, perceived organizational support, green psychological climate, environmental self-efficacy, and organizational identification.

Ethical leadership becomes an important contextual factor. The remarkable coefficient of moderation suggests that leaders influence the receptiveness of employees toward formal HR management practices. If the leaders are ethical and have consistency between organizational values and personal behavior, employees might take the initiatives towards sustainability seriously. This finding is consistent with the existing literature on the importance of ethical leadership as a factor in improving the efficiency of the GHRM system; for example, according to Ren et al., CEO ethical leadership positively mediates the impact of GHRM on green commitment.

Theoretical Implications

Firstly, the study adds value to the behavioral understanding of Green Human Resource Management (GHRM). Instead of thinking about GHRM only as a tool of environmental management in organizations, the findings show how relevant it is in relation to the behavior of employees. The significant correlation between GHRM and Employee Sustainable Behavior (ESB) proves that HR activities can become effective tools in sustainability.

Secondly, the study offers an enriched view on Employee Engagement. The correlation between Employee Engagement and ESB proves the relevance of employee engagement to sustainable behavior. However, the lack of mediation shows that it cannot be taken for granted as a key mediating variable between GHRM and sustainable behavior.

Thirdly, the study confirms that Ethical Leadership is an important moderating variable. The moderation finding proves that HR systems exist in the context of leadership in organizations. GHRM might work effectively if employees see that leaders are behaving ethically and responsibly.

Finally, the study expands the applicability of Social Exchange Theory. The findings show that if an organization invests in sustainability, it might receive something positive in return from its employees. However, the lack of mediation means that the processes of reciprocity might have other psychological components.

Managerial Implications

Organisations need to integrate sustainability into their human resource management systems, not as a stand-alone environmental initiative. The sustainability objectives should be integrated into the core HR practices such as recruitment and selection, employee onboarding, training and development, performance management, reward and incentive systems and employee participation mechanisms. The integration of such values can

foster sustainable values within the organization and encourage employees to integrate environmental considerations into their everyday work routines (Papademetriou et al., 2025). Furthermore, organisations should provide green training programs to enable employees with knowledge and skills to implement environmentally friendly procedures at work. Training could include topics like conserving energy, appropriate use of electronic resources, proper waste disposal, reduction in paper consumption and environmentally responsible work practices. Organisations should also encourage more employee participation by giving employees the chance to propose and implement their own sustainability projects and initiatives. More involvement can create a feeling of ownership among the workers, motivating them to integrate sustainability into their daily work in the organization (Singha, 2024). Furthermore, organisations should emphasise ethical leadership by incorporating ethical decision making, integrity, transparency, accountability, and sustainability into leadership development programs. Leaders should lead by example by demonstrating the environmental and ethical behaviours expected from employees thus reinforcing organisational sustainability values. Finally, organisations need to connect sustainability policies to managerial actions. Employees are more likely to believe in the effectiveness of green HR policies when they see them being put into practice in real managerial behaviours and the day-to-day activities of the organization. Consistent leadership behaviour therefore can lead to increased employee trust, improved credibility of sustainability initiatives and a greater commitment from employees to environmentally responsible behaviour. Lastly, organizations should think of ways of measuring sustainability-related aspects in both employee and organizational performance evaluations.

Limitations

First, the research used a cross-sectional design. Because data were collected at one point in time, strong causal conclusions should be avoided. Second, the study used convenience sampling. The sample therefore may not fully represent the wider IT employee population in Delhi-NCR or other regions. Third, the sample consisted of 154 respondents. Although this provides useful empirical evidence, larger samples could improve statistical power and generalizability. Fourth, the research focused on IT organizations in Delhi-NCR. The findings may therefore differ in manufacturing, healthcare, education, banking, or other sectors. Fifth, the study relied on questionnaire-based responses. Self-reported data can be affected by common-method bias and social desirability.

Finally, the mediation analysis did not support the proposed role of Employee Engagement. Future studies should investigate alternative mediating mechanisms rather than assuming that engagement is the primary pathway between GHRM and sustainable behaviour.

Future Research Directions

The present study provides several opportunities for further investigation. Future research could employ longitudinal designs to capture how GHRM practices influence employees' sustainable behaviors over different periods and whether such effects persist over time. Broader studies incorporating larger and geographically dispersed samples, together with probability-based sampling techniques, would also strengthen the generalizability of findings within the Indian context. Comparative investigations across industries could further determine whether the effectiveness of GHRM varies between IT, manufacturing, and service-sector organizations.

Future research may look into the effect that the use of different leadership styles – specifically green transformational, servant, and authentic leadership – has on reactions to green HRM among employees. The use of multi-source data collection methods, especially using supervisory ratings of employees' sustainable behaviors, can help to overcome some of the shortcomings that arise due to the use of common method bias and self-report measures. In addition, future studies can look into personal and occupational differences among employees, including environmental values, tenure in the organization, hierarchy, and generation, that affect the relationship between GHRM and sustainable behaviors. Future models can make use of variables such as green work engagement and personal green values to help in the comprehension of psychological and organizational processes through which GHRM promotes sustainable behaviors among employees.

Conclusion

The current study examines the effect of GHRM practices on Employee Sustainable Behavior among IT companies operating in the Delhi-NCR area by taking Employee Engagement as a mediator and Ethical Leadership as a moderator. It is observed that there exists a significant positive relationship between GHRM practices and Employee Engagement as well as Employee Sustainable Behavior. There is also a significant positive association between Employee Engagement and Employee Sustainable Behavior. However, the effect of GHRM practices on Employee Sustainable Behavior through Employee Engagement is not significant enough; hence, Employee Engagement cannot be taken as a significant mediator in the current study. On the other hand, Ethical Leadership increases the impact of GHRM practices on

Employee Engagement.

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