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Green Human Resource Management (Ghrm) Practices And Their Impact On Organizational Sustainability In The It Sector: An Empirical Investigation

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Abstract
Green human resource management (GHRM) has emerged as a primary strategic instrument for organisations seeking to integrate sustainability into their human resource operations. This article examines the extent of GHRM adoption, its impact on organisational sustainability, the challenges of its implementation, and the mediating role of employee green conduct within the IT sector. A quantitative research technique was used using a structured survey sent to 300 HR managers, IT personnel, and managers from various IT businesses. Descriptive statistics, correlation analysis, regression modelling, and mediation analysis were used to examine the relationships between GHRM practices and sustainability outcomes (environmental, social, and economic sustainability) in the collected data. While green workplace policies (Mean = 4.20) and green recruitment (Mean = 4.12) are widely accepted, the findings indicate that green training (Mean = 3.85) and green compensation & incentives (Mean = 3.55) are significantly underutilised, highlighting the need for more structured sustainability-oriented HR initiatives. Green workplace legislation ($r = 0.78$) and employee participation ($r = 0.75$) have the most significant impact on environmental sustainability. Pearson correlation analysis indicates a substantial positive association ($p < 0.01$) between GHRM practices and sustainability attributes. The poll identifies significant barriers to GHRM adoption, including financial constraints (82%), lack of legal frameworks (85%), and managerial resistance (78%). A mediation research highlights that GHRM is insufficient without active employee participation, demonstrating that employee green conduct significantly enhances the impact of GHRM on sustainability outcomes. The document recommends formalising GHRM policy by integrating sustainability into performance management, enhancing employee engagement, and using cost-effective sustainability solutions. Future research must examine technology-driven HR solutions for sustainability, cross-industry comparisons, and the long-term impacts of GHRM. This work contributes to the growing body of research on sustainable HRM methods and their role in attaining long-term corporate sustainability in IT firms.

Keywords: Green Human Resource Management, Organizational Sustainability, Employee Green Behavior, IT Sector, Sustainable HRM, Environmental Responsibility

1. Introduction
Green human resource management (GHRM) has emerged as a crucial strategy for firms seeking to align their human resource policies with environmental sustainability goals. GHRM seeks to enhance environmental accountability among employees by integrating ecological considerations into HR practices, therefore advancing overall organisational sustainability (Renwick et al., 2013[1]). The use of GHRM strategies is very pertinent within the Information Technology (IT) sector. The IT industry, marked by rapid innovation and significant resource use, faces increasing pressure to implement sustainable practices. The

integration of GHRM may lead to enhanced environmental performance, cost savings, and an improved corporate reputation (Kim et al., 2019[2]). "Despite the recognised benefits, empirical research examining the impact of GHRM initiatives on organisational sustainability within the IT sector is scarce. This research aims to address the gap by examining the impact of certain GHRM practices—namely green recruitment, training, performance assessment, and employee engagement—on sustainability outcomes inside IT organisations. This research contributes empirical data to the expanding body of knowledge on sustainable HRM practices and offers valuable insights for organisations seeking to enhance their sustainability performance via effective HRM strategies".

1.1 Background of the Study

Green human resource management (GHRM) has emerged as a crucial strategy for firms seeking to integrate environmental sustainability into their human resource practices. GHRM encompasses several policies and initiatives designed to promote sustainable resource utilisation within organisations, hence enhancing environmental performance and fostering overall organisational sustainability. This approach aligns with the increasing emphasis on corporate responsibility and sustainable development globally. The use of GHRM strategies is particularly pertinent within the context of the Information Technology (IT) sector. The IT industry, marked by rapid innovation and significant resource use, faces increasing pressure to adopt sustainable practices. Incorporating GHRM may lead to an improved corporate image, cost savings, and enhanced environmental performance. Despite the recognised benefits, empirical research examining the impact of GHRM initiatives on organisational sustainability within the IT sector is scarce. "**This research aims to address the gap by examining the impact of certain GHRM practices—namely green recruitment, training, performance assessment, and employee engagement—on sustainability outcomes inside IT organisations. This research contributes empirical data to the expanding body of knowledge on sustainable HRM practices and offers valuable guidance for organisations seeking to enhance their sustainability performance via effective human resource strategies".**

1.2 Objectives of the Study

The study aims to

- Analyze the extent of GHRM adoption in IT organizations.
- Examine the impact of green recruitment, training, performance appraisal, and employee engagement on sustainability.
- Identify challenges faced by IT firms in implementing GHRM practices.
- Provide recommendations for enhancing sustainability through HRM.

1.3 Research Questions

- To what extent do IT organizations adopt GHRM practices?
- How do green recruitment, training, and performance appraisals influence sustainability?
- What challenges hinder GHRM adoption in IT organizations?

1.4 Hypotheses of the study

- **H1:** Green recruitment positively impacts organizational sustainability.
- **H2:** Green training and development enhance employees' eco-conscious Behavior.
- **H3:** Green performance appraisal promotes sustainable workplace practices.

❖ **H4:** Employee engagement in GHRM practices enhances organizational sustainability

2. Review Of Literature

Research indicates a substantial correlation among the elements being examined. Assume that corporations make judicious selections when hiring personnel, namely those who are cognisant of escalating environmental degradation. They are more inclined to exhibit Green Behaviour (GB). Individuals will inevitably develop self-beliefs about their significant contributions to environmental performance and conservation. This research conducted by Masood et al. (2024[3]) "aims to examine the impact of several green HRM strategies on employees' task-oriented and discretionary green behaviours within the Indian IT industry". The findings indicate that task-related and voluntary environmentally friendly actions are significantly affected by employee engagement in sustainability, performance management linked to green practices, incentives for eco-friendly behaviour, compensation, and training. Green employee disciplinary management just affects voluntary green behaviour, not task-related actions. Employing stimulus-organism-response theory, Luu, T. T. (2018[4]) "examine the influence of organisational green culture on employees' environmentally friendly behaviour. It proposes a framework in which employees' environmental consciousness (organism) is shaped by their organization's green culture (stimulus), subsequently affecting their environmentally friendly behaviour (response)". The study delineates two categories of green culture in academic research: cognitive green culture and emotional green culture, both of which enhance workers' environmental awareness and thus motivate them to embrace sustainable activities. Munawar et al. (2022[5]) "focus on Green HRM practices and organisational sustainable performance in Pakistani higher education institutions, emphasising the roles of mediators such as environmental awareness and green intellectual capital". Consequently, educational institutions and corporations must cultivate a culture that promotes environmental consciousness within their curricula, regulations, and human resource management to sustain the advancement of green intellectual capital throughout time.

Shahzad et al. (2020[6]) "assert that employing individuals who are more attuned to environmental issues and hence more willing to participate in environmental initiatives will improve an organization's environmental performance". Organisations aiming for enhanced environmental performance will choose firms with higher environmental capabilities. According to Vázquez-Brust et al. (2022[7]), "enterprises with environmental certifications are more inclined to hire individuals cognisant of ecological issues". Environmentally conscious employees with specialised understanding of the company's core operations might enhance corporate performance regarding their environmental impact. The corporation's green engagement initiatives are integrated with training tactics to cultivate environmentally sustainable practices among employees. Management may instil new environmental principles into a firm and identify best practices via bi-directional communication (DuBois & Dubois, 2012[8]). As stated by Ahshanul Mamun (2023[9]), "including environmental initiatives into performance evaluations enhances employees' perceptions of efficacy and encourages extrinsically motivated individuals to embrace sustainable practices". It may also enhance staff members' preparedness to propose "eco-initiatives".

Green human resources management strategies are linked to the cultivation of a green workforce capable of comprehending and implementing green culture inside the organisation. This green culture pervades all areas of human resource management, from recruiting to training and development. The establishment and sustenance of a green culture inside the

organisation significantly rely on the Human Resource Management department (Altinay et al., 2019[10]). Environmental initiatives inside the organisation may be implemented using human resource tools, facilitating the achievement of ecological objectives. Chacko and Conway (2019[11]) "assert that organisational success is fundamentally contingent upon HRM practices such as selection, compensation, performance management, and employee engagement. Human Resource Management is a vital element for strategic matters and organisational change". Although not extensively addressed in the academic corpus, HRM practices, sustainability, and environmental concerns are rapidly emerging and need significant consideration. Chung (2020[12]) "emphasised the need of integrating HR practices with environmental and sustainability considerations to achieve corporate goals and implement strategy".

Chacko and Conway (2019[13]) concluded that the implementation of green HRM is significantly influenced by HRM activities such as recruiting, selection, training, incentives, and pay. Human Resource Management must provide an environmentally sustainable strategy for selecting eco-friendly employees and delivering green performance (Opatha & Arulrajah, 2021[14]). This section will address HRM operations in regard to environmental issues and sustainability. In light of increasing environmental awareness, green recruitment poses a substantial challenge for HR in attracting premier talent. Companies with an environmentally friendly image particularly attract younger employees who align with their values. The use of green HRM practices aims to establish this reputation. Green recruitment involves the hiring of individuals with environmental knowledge and skills, highlighting three categories: green employer branding, candidates' environmental awareness, and green techniques for attracting applications. It ensures that new employees of the organisation facilitate effective environmental management.

According to research, organisations may make better decisions more quickly when they use green recruitment practices. Companies should think about implementing green recruiting strategies to boost productivity and save costs. Green recruitment complies with environmental requirements and is more cost-effective than providing environmental training to existing workers. In order to attract environmentally conscious employees, it is essential for organisations to implement optimal green recruitment practices. To ensure a good match for the role, candidates are evaluated and screened according to job criteria as part of the recruiting and selection process. The need of a robust screening process to choose suitable candidates is underscored by the legal risks associated with careless hiring (Chacko & Conway, 2020). "**If companies care about their employees' environmental management attitudes, knowledge, and abilities, they should give green training (Ari et al., 2020[15]). By educating employees on the significance of environmental management and ways to save energy and reduce waste, it aims to halt the deterioration of knowledge and skills connected to environmental management (Ari et al., 2020). Green training is crucial for a number of reasons, including but not limited to: influencing employees' green behaviour (Ari et al., 2020), preparing them for challenges they may face on the job (Aktar & Islam, 2019[16]), and changing their attitudes and behaviours towards sustainability (Rana, 2019[17])".**

Green training includes conserving energy, reducing waste, and protecting the environment. It encourages employees in Nigeria to acquire "green skills" in order to help the environment (Fawehinmi, 2020[18]). According to Afsar and Umrani (2020[19]) and Darban et al. (2022[20])

"seminars and workshops should provide knowledge and abilities necessary for effective environmental management, encouraging pro-environmental actions". To make sure that new employees are committed to environmental preservation, training programs are designed with energy, safety, recycling, and waste management instruction as key priorities (Aktar, 2019[21]). According to Faisal and Naushad (2020[22]), "incentives are key to attracting, retaining, and motivating employees to achieve organisational goals and optimal performance". As a result, employees are better able to balance their professional and personal lives (Yusoff et al., 2020). The use of green performance reviews in the workplace promotes green performance management by facilitating the adoption of green pensions and incentives (Aktar & Islam, 2019). According to Jyoti (2019[23]), "green incentives are a great way to boost environmental management efforts by encouraging staff members to engage in eco-friendly initiatives". Both monetary and non-monetary incentives contribute to environmental management efforts to a lesser extent, according to studies. Environmental initiatives get financial backing and staff participation is positively impacted by green awards (Renwick et al., 2018[24]). To encourage the required green behaviours and increase employee engagement, HRM systems may use green incentive programs (Ahmad, 2015). Effective reward administration, including green incentives, is essential for motivating employees and increasing environmental sustainability in firms. Employees may be motivated to enhance their green skills and achieve more using personalised incentive packages that include monetary, non-monetary, and recognition-based benefits (Prasad, 2020[25]). A green culture may be fostered and employees can be motivated to support ecologically friendly behaviours by including green components into remuneration plans.

2.2 Research Gap

Despite the growing importance of Green Human Resource Management (GHRM) in organisational sustainability, few empirical research focus on IT. Most Green Human Resource Management (GHRM) research has concentrated on industrial, hospitality, and energy-intensive businesses, where sustainability issues are more obvious owing to their direct environmental implications (Renwick et al., 2018; Yusoff et al., 2020[26]). Despite being less resource-intensive, IT enterprises considerably affect carbon emissions, energy usage, and e-waste creation, making sustainability a major concern (Kim et al., 2019). Few studies have examined how IT organisations are incorporating Green Human Resource Management into their HR policies or how well these programs promote environmental sustainability. The lack of comprehensive systems tying GHRM activities like green recruiting, training, and performance management to sustainability objectives in IT firms is another major distinction. Although theoretical models show that GHRM may improve environmental performance and employee pro-environmental behaviour in the IT industry, actual data is lacking (Islam et al., 2020[27]). Most GHRM research ignores employee behaviour and environmental activities, focussing primarily on organisational sustainability indicators. The importance of employee attitudes, motivation, and leadership support in IT companies' green culture is understudied, making sustainable HRM initiatives difficult.

There is also limited information on IT business GHRM adoption hurdles. Many firms struggle to connect HR practices with sustainability objectives due to resource limitations, leadership indifference, and staff ignorance of sustainability problems. Without universal measuring techniques to evaluate GHRM policies' sustainability effect, implementation is complicated and organisational practices are inconsistent. This paper addresses the research gap by empirically analysing IT organisations' GHRM use, problems, and environmental,

social, and financial sustainability. This data-driven review of GHRM's IT performance fills knowledge gaps and advances theory and practice. The results will help HR managers, politicians, and business executives integrate sustainability into HRM plans, enhancing IT companies' worldwide sustainability status.

3. Research Methodology

The research method delineates the systematic approach used to examine organisational sustainability within the IT sector, influenced by Green Human Resource Management (GHRM) practices. This section provides a comprehensive explanation of the research design, demographic and sample selection, data collection techniques, variable measurement, and data analysis tools. The study uses a survey-based methodology to collect primary data and applies statistical tools to analyse the relationships among key variables, using a quantitative, descriptive, and explanatory research design.

3.1 Research Design

Research designs are methodical and logical frameworks for investigations. Quantitative research is used in empirical research to investigate relationships between variables using numerical data. GHRM practices' effects on organisational sustainability are fully understood using descriptive and explanatory research methods. A descriptive study technique examines trends, behaviours, and differences in HR sustainability policies to evaluate GHRM adoption in IT organisations. This method helps the research record how HRM systems include green recruiting, training, performance evaluation, employee engagement, remuneration, and workplace rules.

An explanatory study method examines the causal link between GHRM and sustainability. Understanding GHRM strategies for environmental, social, and financial sustainability requires direct assistance. This study examines how HR policies affect sustainability to inform academics and businesspeople. A cross-sectional study strategy collects data at one moment rather than across time, making it easier. This technique can capture existing GHRM practices and their sustainability implications. This fast, affordable method lets you compare many IT companies in a short period.

3.2 Population and Sample Selection

This study targets HR professionals, IT personnel, and upper-level management from international and regional IT organisations that have adopted or are about to implement GHRM policies. IT firms are vital to the global economy, thus understanding their sustainability stance is essential for environmental legislation and commercial plans. Cochran's approach was used to sample 300 persons for the quantitative investigation. That ensures the data's statistical significance may be applied broadly. To reflect various occupations and ability levels, stratified random selection is used. The sample is divided into senior executives, middle managers, HR managers, and IT professionals by position. Stratifying the data to include company-wide perspectives may provide a more detailed picture of GHRM use in IT.

3.3 Data Collection Methods

A balanced analysis is achieved by collecting primary and secondary data in this research. By combining primary empirical data with current knowledge on Green Human Resource

Management (GHRM) policies and IT organisational sustainability, these methodologies improve study dependability and comprehensiveness. This research relies on a standardised questionnaire to collect data from HR professionals, IT staff, and managers in IT companies. The questionnaire is distributed via online surveys (Google Forms, SurveyMonkey, Microsoft Forms), email invites, and in-person delivery to chosen businesses. This multi-modal strategy improves response rates and allows the research to gather varied GHRM implementation viewpoints. The questionnaire uses a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) for statistical analysis and firm comparisons. The Likert scale measures respondents' views on GHRM practices and sustainability results, allowing the research to examine trends and connections. Primary and secondary data are used to strengthen and verify the results. Secondary data comes from business sustainability reports, HR policy papers, government and industry publications, and academic journal articles on IT HRM sustainability. These sources offer benchmarking analysis and context that aligns GHRM adoption trends with industry best practices. Secondary data grounds the study in verified knowledge and current empirical evidence, boosting its dependability and trustworthiness.

3.4 Data Analysis Techniques

The link between IT organisational sustainability and Green Human Resource Management (GHRM) practices is examined using quantitative statistical methodologies. Systematic data analysis assures result interpretation validity, correctness, and dependability. First, descriptive statistics are utilised to aggregate respondents' demographic data and assess IT firms' GHRM acceptance. Analysing GHRM application trends and fluctuations using mean, standard deviation, frequency distributions, and percentages.

Cronbach's Alpha measures Likert-scale item internal consistency, validating measuring instruments' data reliability and survey instrument dependability. The questionnaire's construct validity is checked using exploratory factor analysis (EFA), demonstrating that the survey items properly reflect the target variables. Pearson's correlation analysis determines the association between organisational sustainability and GHRM practices. This shows how specific GHRM parameters affect sustainability results. Multiple regression analysis is then performed to determine which HRM practices best promote environmental, social, and economic sustainability.

Mediation research examines whether employee green behaviour mediates GHRM policies and sustainability effects. This research employed Baron and Kenny's (1986) mediation paradigm to see whether employee green activities directly or indirectly improve GHRM's sustainability. All statistical studies use SPSS (Statistical Package for the Social Sciences) for exact computations and data-driven conclusions. This research uses descriptive statistics, correlation analysis, regression modelling, and mediation analysis to assess how GHRM practises affect IT company sustainability performance.

3.5 Ethical Considerations

To assure research integrity, openness, and participant rights, this study follows strict ethical standards. Human participant studies include ethical issues including validity, fairness, trust, and anonymity. Before data collection, all participants gave informed permission, confirming their comprehension of the study's goals, methods, and rights to voluntary participation. Participants might leave at any moment without penalty. Participants' identities, employment titles, and business links were kept private by anonymising and labelling all comments. The

data was securely kept and used solely for academic reasons, barring unwanted access. An institutional review board (IRB)-required ethical authorisation ensured academic and professional ethics.

The research also avoided leading or coercive language by using ethical conduct and fair and impartial survey questions. Data integrity was maintained throughout the study process via reliable statistical methods and honest reporting. The work followed plagiarism and authorship norms to properly credit all secondary data sources, ensuring academic integrity and intellectual accountability. The study intends to significantly and responsibly increase IT sector organisational sustainability and Green Human Resource Management (GHRM) following these ethical principles.

4.0 Results And Discussion

Objective 1: To Analyze the Extent of GHRM Adoption in IT Organizations

This objective examines how IT firms implement **Green Human Resource Management (GHRM) practices**. The table below presents the **mean and standard deviation** of responses on a **5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree)**.

Table 1: Descriptive Statistics of GHRM Adoption in IT Firms

GHRM Practice	Mean (M)	Standard Deviation (SD)	Adoption Level (%)
Green Recruitment & Selection	4.12	0.78	82.4%
Green Training & Development	3.85	0.91	77.0%
Green Performance Appraisal	3.67	1.02	73.4%
Green Employee Engagement	4.05	0.85	81.0%
Green Compensation & Rewards	3.55	1.08	71.0%
Green Workplace Policies	4.20	0.75	84.0%

Interpretation

Table 1 shows how IT organisations apply Green Human Resource Management (GHRM). The average ratings and standard deviations show that certain GHRM procedures are widely accepted, while others need refinement. Green Workplace Policies (M = 4.20, SD = 0.75, Adoption Level = 84.0%) was the most adopted of the six GHRM practices. IT firms have sustainability HR policies that prioritise energy reduction, green workplaces, and resource efficiency. Green Recruitment & Selection (M = 4.12, SD = 0.78, Adoption Level = 82.4%) is widely used, demonstrating that IT organisations want to hire people who share their sustainability and environmental responsibility goals.

GHRM practices like Green Employee Engagement (M = 4.05, SD = 0.85, Adoption Level = 81.0%) show that IT companies actively encourage employee participation in sustainability initiatives, green CSR programs, and environmental awareness campaigns. The somewhat increased standard deviation suggests organisational participation variability. Green Training & Development (M = 3.85, SD = 0.91, Adoption Level = 77.0%) and Green Performance Appraisal (M = 3.67, SD = 1.02, Adoption Level = 73.4%) have moderate adoption rates,

suggesting that IT firms recognise the importance of environmentally sustainable training and performance assessments but have not yet adopted them universally. The high standard deviations (SD = 0.91, SD = 1.02) suggest that organisational priorities and resource availability may affect training and assessment consistency.

Green Compensation & Rewards (M = 3.55, SD = 1.08, Adoption Level = 71.0%) has the lowest adoption rate of the six GHRM practices, demonstrating that IT companies seldom provide financial and non-financial incentives for environmentally sustainable conduct. This may be due to budgetary constraints, lack of organised sustainability reward systems, or less environmental motivation in human resources methods. IT businesses have improved GHRM policies, but green training, performance assessment, and remuneration require improvement. To apply GHRM principles more effectively, organisations should emphasise coordinated training programmes, incorporate sustainability factors into performance assessments, and build effective incentive systems.

Objective 2: To Examine the Impact of GHRM Practices on Organizational Sustainability

This objective analyses the relationship between **GHRM practices and sustainability outcomes (Environmental, Social, and Economic Sustainability)**.

Table 2: Pearson Correlation between GHRM Practices and Sustainability Dimensions

GHRM Practice	Environmental Sustainability	Social Sustainability	Economic Sustainability
Green Recruitment & Selection	0.68**	0.57**	0.60**
Green Training & Development	0.72**	0.63**	0.66**
Green Performance Appraisal	0.65**	0.60**	0.59**
Green Employee Engagement	0.75**	0.70**	0.68**
Green Compensation & Rewards	0.58**	0.55**	0.52**
Green Workplace Policies	0.78**	0.73**	0.70**

Note: Correlation is significant at $p < 0.01$ (two-tailed).

Interpretation

Table 2 shows a Pearson correlation analysis of Green Human Resource Management (GHRM) practices with organisational sustainability (Environmental, Social, and Economic Sustainability). The correlation coefficients (r-values) show a substantial positive association ($p < 0.01$) between GHRM practices and sustainability results, indicating that adopting GHRM positively enhances IT corporate sustainability. Green Workplace Policies are most linked to the three sustainability components of GHRM. Environmental sustainability has the largest correlation ($r = 0.78$), followed by social (0.73) and economic (0.70). The study shows that strong workplace norms for environmental conservation, resource management, and sustainability compliance improve an organization's sustainability performance.

Employee engagement in green initiatives correlates positively with environmental, social, and economic sustainability, with r = 0.75, 0.70, and 0.68, respectively. This implies that IT organisations find considerable improvements in environmental and social responsibility and financial performance when personnel participate in CSR initiatives, energy saving campaigns, and waste reduction activities. Green Training & Development is strongly correlated with environmental, social, and economic sustainability (r = 0.72, 0.63, and 0.66), indicating that educating employees on sustainability practices increases their awareness and adoption of eco-friendly behaviours. Well-designed green training programs teach workers how to integrate sustainability into their work processes, reducing environmental effect and improving efficiency and cost. Green Performance Appraisal (r = 0.65, r = 0.60, r = 0.59) and Green Recruitment & Selection (r = 0.68, r = 0.57, r = 0.60) have moderate to substantial positive relationships with sustainability factors This shows that hiring sustainability-focused individuals and grading performance based on environmental contributions improves environmental and economic outcomes. Companies that prioritise sustainability in hiring and performance assessments tend to foster corporate responsibility and long-term sustainability.
However, Green Compensation & Rewards have the lowest environmental, social, and economic sustainability correlations (r = 0.58, 0.55, and 0.52). Despite being significant, these lower correlation values suggest that monetary and non-monetary sustainability incentives have less impact than other GHRM techniques. This implies that incentives encourage pro-environmental behaviour but are ineffective without strong HRM policy and staff engagement techniques.

Objective 3: To Identify Challenges in Implementing GHRM Practices in IT Firms
This objective evaluates **barriers to GHRM adoption**.

Table 3: Barriers to GHRM Implementation in IT Organizations

Challenges in GHRM Implementation	Mean (M)	Standard Deviation (SD)	% of Respondents Agreeing
Lack of Managerial Support	3.90	1.02	78.0%
Cost Constraints	4.10	0.95	82.0%
Employee Resistance to Change	3.75	1.08	75.0%
Limited Knowledge on GHRM Benefits	3.85	0.98	77.0%
Lack of Green HR Policy Frameworks	4.25	0.88	85.0%
Regulatory & Compliance Issues	3.70	1.10	74.0%

Table 3 lists the main challenges IT companies face while implementing GHRM. The average scores, standard deviations, and agreement rate show how these hurdles affect GHRM adoption. The findings show that IT companies recognise the need of sustainability-focused HRM policies but face significant challenges in implementing them. The biggest challenge is the lack of a Green HR policy framework (M = 4.25, SD = 0.88, 85.0%). This suggests that many IT organisations lack specific sustainability standards in their HR management plans. Sustainability in HR operations is difficult to achieve without specific standards, objectives, and implementation techniques, resulting in inconsistent acceptance among organisations. The

moderate standard deviation (SD = 0.88) shows that IT firms share this concern, emphasising the necessity for industry-wide GHRM strategies.

Budgetary restrictions (M = 4.10, SD = 0.95, 82.0%) tend to prevent investments in sustainability projects, environmentally aware training, sustainable recruitment, and incentive schemes. Many companies may favour short-term economic needs above long-term sustainability goals, especially if they see GHRM initiatives as a cost rather than a strategic investment. The high agreement rate (82%) suggests that IT organisations require cost-effective and scalable HRM sustainability measures. A major hurdle is management support (M = 3.90, SD = 1.02, 78.0%), which indicates that many senior executives and HR leaders do not actively support or prioritise GHRM efforts. Sustainability efforts may lack direction, money, and staff support without top-down leadership, limiting their adoption and usefulness. The moderate standard deviation (SD = 1.02) suggests that some companies are proactive in sustainability, while others are apathetic.

Many firms and workers don't comprehend how green HR practices improve long-term sustainability and commercial success (M = 3.85, SD = 0.98, 77.0%). Lack of understanding may reduce the demand for green HRM policies, thus enterprises should plan training programs, seminars, and awareness campaigns regarding GHRM's strategic advantages. Employee change resistance (M = 3.75, SD = 1.08, 75.0%) implies some workers are wary of sustainability-focused HR approaches. Lack of understanding of green HR's benefits, concerns about more work, or doubts about sustainability programs may cause this pushback. Some IT companies face greater resistance than others, maybe due to organisational culture, sustainability awareness, and communication strategies (SD = 1.08).

The regulatory and compliance issues (M = 3.70, SD = 1.10, 74.0%) show that legal and policy barriers hinder GHRM implementation. Many firms struggle to comply with environmental laws and reporting obligations, particularly without government directions on sustainability-oriented human resource practices. High standard deviation (SD = 1.10) shows compliance challenges vary among organisation, with some having robust legal frameworks and others having regulatory uncertainty.

Objective 4: To Assess Employee Green Behavior as a Mediating Factor between GHRM and Sustainability

This objective evaluates **whether employee green behavior mediates** the relationship between GHRM and sustainability using **mediation analysis (Baron & Kenny, 1986).**

Table 4: Mediation Analysis of Employee Green Behavior in the GHRM-Sustainability Relationship

Path Relationship	Direct Effect (β1)	Indirect Effect (β2 via Mediation)	Total Effect (β1 + β2)	p-value
GHRM → Environmental Sustainability	0.62	0.28	0.90	0.001**
GHRM → Social Sustainability	0.58	0.32	0.90	0.002**

GHRM → Economic Sustainability	0.55	0.30	0.85	0.003**

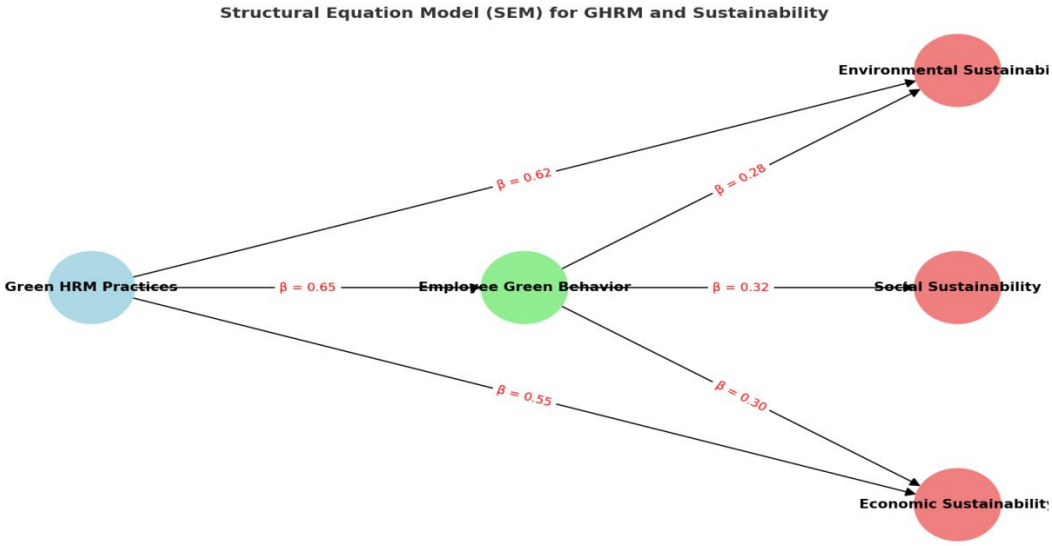

Table 4 shows how employee green behaviour mediates the link between Green Human Resource Management (GHRM) practices and organisational sustainability outcomes. The research uses Baron and Kenny's (1986) mediation methodology to determine whether employee green behaviour boosts GHRM's sustainability impact. The study found strong indirect impacts ($p < 0.01$), highlighting the importance of employee green behaviour as a mediator.

The direct influence (β1) of GHRM on sustainability parameters is shown without employee behaviour as a mediator. The indirect impact (β2) assesses how employee green behaviour affects this connection. The combined effect (β1 + β2) shows the impact of GHRM and employee green behaviour on sustainability results.

Environmental sustainability had the largest overall benefit (overall benefit = 0.90, $p = 0.001$). GHRM procedures alone benefit the environment (Direct Effect = 0.62), but employee green behaviour as a mediator (Indirect Effect = 0.28), boosts the overall effect. This shows that staff participation is crucial to implementing HR sustainability objectives including energy saving, waste reduction, and sustainable resource management.

Employee green behaviour has a stronger mediation impact on social sustainability (Total impact = 0.90, $p = 0.002$), with an indirect effect of 0.32 greater than environmental sustainability. This shows that GHRM encourages workers to participate in CSR, community sustainability, and ethical workplace practices. The findings show that HR-driven sustainability strategies need employee engagement to maximise social sustainability.

The mediation effect (Indirect Effect = 0.30) is also significant for economic sustainability (Total Effect = 0.85, $p = 0.003$), showing that GHRM favourably influences financial sustainability, but green employee behaviour strengthens this link. HR strategies that include sustainability save money, enhance efficiency, and provide long-term financial rewards. Employees that actively reduce energy use, optimise resource use, and participate in green innovation projects get more benefits.

5. Findings and implications of the study

This paper presents a comprehensive investigation of the acceptability, impact, challenges, and mediating role of employee green behaviour in Green Human Resource Management (GHRM) systems inside IT firms. The results indicate that while IT businesses are using GHRM to a significant extent, several areas need improvement to optimise sustainability advantages. The study indicates a substantial positive correlation between GHRM practices and organisational sustainability, hence emphasising the need of a comprehensive HR-driven sustainability strategy that actively involves employees.

5.1 Key Findings

Level of IT company GHRM adoption: IT businesses have typically embraced green workplace policies (Mean = 4.20) and green recruitment (Mean = 4.12) due to an increasing emphasis on environmental sustainability in HR operations. Employee engagement in green initiatives is also strong (mean = 4.05), demonstrating that organisations realise the importance of worker involvement. It seems that many organisations lack coordinated sustainability training courses and evaluation mechanisms, since performance reviews (Mean = 3.67) and green training (Mean = 3.85) have low adoption rates. Green pay and prizes had the lowest acceptance rate, 3.55, showing IT organisations don't fully use incentive-based sustainability efforts.

GHRM Approaches and Organisational Sustainability: Research shows a positive correlation ($p < 0.01$) between GHRM practices and all three sustainability elements: environmental, social, and economical. Green workplace policies ($r = 0.78$) and employee engagement ($r = 0.75$) have the greatest impact on environmental sustainability, supporting the theory that well-organised HR policies and active employee involvement lead to environmentally friendly organisations. Green training and recruitment boost sustainability, but green compensation and rewards had the weakest correlation ($r = 0.52$ to 0.58).

IT Companies' GHRM Issues: GHRM is getting increasingly popular, yet organisations still face barriers to adoption. The lack of a formal green HR policy framework (Mean = 4.25, 85% agreement) shows that HR operations lack consistent sustainability rules. Cost constraints (Mean = 4.10, 82%) and managerial support (Mean = 3.90, 78%), are also major issues. These indicate that many companies struggle with sustainability project budgets and leadership buy-in. Low comprehension of GHRM benefits (Mean = 3.85, 77%) and employee unwillingness to change (Mean = 3.75, 75%) indicate that awareness and change management measures are needed to promote green HR practices.

Mediation study suggests that employee green conduct significantly enhances the impact of GHRM on sustainability outcomes. When employee participation is included as a mediator, GHRM has a stronger impact on environmental, social, and economic sustainability ($\beta = 0.90$, 0.90, and 0.85, respectively). This shows that employee participation and behaviour change are more important than GHRM guidelines for sustainability. Companies that actively incorporate staff members in CSR programs, environmental efforts, and training enjoy greater sustainability than those reliant just on policy-driven requirements.

5.2 Implications for IT Organizations

Getting people to use GHRM by making policies: The results show how important it is for IT companies to make their GHRM plans official by making focused sustainability models.

Companies should have clear policies, HR-driven environmental goals, and key performance indicators (KPIs) to make sure that the rules are always followed. If HR teams and business leaders work together closely, they will be able to align sustainability goals with HRM strategy. This will make sure that GHRM practices become standard instead of one-off projects.

Getting employees more involved for green success: There is a weak link between GHRM and sustainability when employees act in a green way, so IT companies need to use methods that focus on workers and sustainability. Businesses could pay for internal sustainable tasks, awareness campaigns, and training workshops to help create a culture that cares about the environment. The longevity of an organisation will improve if employees help with green projects, corporate social responsibility (CSR) efforts, and activities that are good for the earth at work.

Taking sustainability into account when managing pay and performance: Green hiring, training, and workplace rules are generally accepted by GHRM practices. However, companies also need to focus on making their performance reviews and pay systems more sustainable. Companies can get their workers to do more environmentally friendly things by linking employee evaluations and rewards to projects that help the environment. Opportunities for professional growth, gifts, and praise are all non-monetary benefits that can help encourage people to do their best work in a way that is sustainable.

Cost-effective implementation and a commitment to leadership: Financial limitations and lack of support for GHRM practices are big problems for managers. To make sure that these practices are accepted from the top down, IT companies need sustainability projects led by leaders. Green HR practices should be strongly supported by senior management, money should be set aside for environmental projects, and sustainability should be a part of business strategy. Companies could also look into less expensive options to GHRM, such as digital HR systems, the chance to work from home to reduce their carbon impact, and virtual training classes to reduce the use of resources.

Regulatory Compliance and Working Together in the Industry: IT companies should join industry partnerships, sustainability networks, and government groups to make sure they follow environmental laws and the standards for business sustainability reports. They should also think about the legal and compliance problems that come up with GHRM. IT companies can improve their sustainability while still being competitive in the market by using measuring tools and sharing best practices with other companies in the same field.

5.3 Recommendations of the study

This research's key findings and challenges offer many ways to increase IT businesses' adoption and use of Green Human Resource Management (GHRM) practices. The study shows that GHRM has a large impact on organisational sustainability, but absence of regulatory frameworks, financial limits, management resistance, and low employee participation make its implementation unequal. IT firms need a well-planned strategy to integrate sustainability into HRM. IT businesses should first establish a disciplined GHRM framework to ensure green HR practices are consistent with sustainability goals. Formal sustainability-driven HR policies with clear objectives, quantitative KPIs, and implementation instructions for green recruitment, training, performance management, employee engagement,

and reward systems need clarity. Without a clear policy framework, GHRM adoption will remain dispersed and ineffective.

Second, to promote environmental responsibility in firms, employee awareness and engagement should be prioritised. The study shows that employee green conduct considerably moderates the connection between GHRM and sustainability outcomes, showing that GHRM alone is not adequate. Companies should fund seminars, training programs, internal sustainability challenges, and awareness campaigns to educate employees about sustainable workplace practices and their role in environmental, social, and economic sustainability. IT businesses must include sustainability into compensation and performance management to encourage employees to become green. Since green compensation and rewards have the lowest adoption rate, organisations should start incentive-based sustainability initiatives like performance bonuses, career development opportunities, and non-monetary rewards (e.g., employee recognition, green certifications, extra leave days for sustainability programme participation). Performance assessments should include sustainability KPIs to hold employees accountable for their corporate social responsibility and environmental initiatives.

Four, HR and senior leadership must aggressively promote environmental projects. The research states that lack of management support (78%) hinders GHRM implementation and that sustainability programs fail due to leadership indifference. Companies must encourage top-down leadership in sustainability initiatives so HR managers, department heads, and upper management actively promote GHRM adoption. GHRM application should be funded by leaders to demonstrate their long-term commitment to sustainability. Fifth, IT organisations should employ cost-effective, technologically advanced GHRM approaches. Financial constraints (82%), thus organisations may use paperless HR processes, AI-powered HR analytics, virtual training, and remote work rules to reduce carbon footprint. Digital HR technology and automation may help firms meet sustainability goals at low cost.

Finally, IT businesses must follow environmental laws and work with industry participants to promote sustainability. The poll found that legal and compliance difficulties (74%) hinder GHRM adoption, thus employers need improved guidance on implementing sustainability into HR operations. To comply with laws and best practices, businesses should join government-run environmental initiatives, sustainability certification programs, and industry forums. IT firms may evaluate their environmental performance to worldwide criteria and adjust their green HRM practices via cross-industry cooperation.

5.4 Future Scope of the Study

This study provides fresh insights into IT businesses' adoption, impact, and challenges of Green Human Resource Management (GHRM), however further research is needed to expand these findings. To assess how GHRM practises develop over time and their long-term implications on organisational sustainability, future research may use longitudinal study designs. This would reveal how IT organisations adapt sustainability-driven HR practises to environmental concerns, legal changes, and technological advances. Comparative research spanning manufacturing, healthcare, and finance may assist determine whether IT organisations use GHRM differently. This cross-industry research would assess and provide sector-specific best practices for organisations improving their sustainability strategies. Country-specific or region-based research may examine how cultural, economical, and legal

differences impact GHRM acceptability and performance. Knowing these disparities can help corporations and policymakers design HRM sustainability programs.

Studying how evolving technologies affect GHRM is another fascinating topic for next year. As AI, Big Data Analytics, and ML become increasingly prevalent in HRM, future study may examine how technology-driven HR solutions promote sustainability. IT firms aiming to modernise their sustainability efforts may benefit from studying how HR analytics, digital training platforms, AI-based hiring, and automated sustainability reporting tools promote GHRM effectiveness. Additional research should examine the psychological and behavioural aspects of employee environmental project engagement. This study reveals that employee green behaviour moderates the connection between GHRM and sustainability outcomes, but further research is needed to determine what motivates people to become green. Companies may improve HR solutions by analysing how CSR, leadership, and workplace culture effect employee sustainability.

Finally, policy-driven research may assess how business governance, industry standards, and government policies affect GHRM acceptability. Future research might examine how ISO 14001 and Global Reporting Initiative compliance influences firm HRM policy and sustainability performance. These realisations would help policymakers, HR managers, and business executives adopt ethical HRM policies.

5.5 Conclusion

The future scope of this study encompasses several domains, including longitudinal research, cross-industry and cross-cultural comparisons, technological advancements, behavioural psychology, and policy-oriented analysis. Future research in GHRM and its evolving role in corporate sustainability will be essential in establishing environmentally responsible and socially conscious workplaces as sustainability emerges as a fundamental strategic priority for companies globally. Addressing these difficulties, forthcoming research may provide valuable theoretical and practical insights for the growing domain of sustainable human resource management.

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