Green HRM Strategies and Their Impact on Managerial Effectiveness: Insights from IT Firms Across India

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ABSTRACT
Through the identification and analysis of crucial Green HRM (Green Human Resource Management) practices relevant to the IT industry throughout PAN India, this study offers a fresh step forward in the pursuit of sustainability. By exploring these practices, the study seeks to offer a comprehensive knowledge of how HR methods unique to the IT industry include sustainability goals. The study also looks at how these important Green HRM practices affect manager performance and retention. In IT firms operating throughout PAN India, the key goal is to evaluate how integrating green initiatives into HR activities affects managers' decisions to stay with their companies and improves their overall work performance. A questionnaire distributed to managers in the IT sector was used to collect data for the study, and AMOS was used for structural equation modeling (SEM) analysis. The results highlight the necessity for enterprises to take a comprehensive approach that takes into account both the motivational and knowledge components of green behavior. Such a strategy guarantees that members are not only knowledgeable about and equipped to participate in sustainable practices, but also continue to be inspired to support and align with the company's environmental objectives.

Keywords: Green HRM practice, Sustainable HRM, Managerial Effectiveness, Manager Retention, IT industry, Organizational behaviour, Green Motivation, Environmental sustainability

1. Introduction

In the contemporary era of heightened awareness about environmental health, the world continues to grapple with pressing issues such as environmental degradation, natural disasters, rising greenhouse gas emissions, and other climate change-related challenges. These changes pose significant threats, including increased pollution and biodiversity loss. In response, many organizations are striving to transform into environmentally sustainable enterprises, driven by governmental regulations and pressures from diverse stakeholders [1].

Customers and workers, for example, have been calling for more corporate accountability in terms of environmental sustainability [2]. Brazil's solid waste management policy [3] and India's Sabka Saath, Sabka Vikas ("Collective Effort, Inclusive Development") program, which was highlighted by the NITI Aayog in 2017, are two examples of governmental initiatives that demonstrate a dedication to accountability and transparency in accomplishing environmental goals. The groundwork for sustainable organizational development has been further strengthened by the significant advancements made in the investigation of the connections between environmental sustainability and human resource practices through the use of theoretical frameworks like stakeholder theory and the resource-based view.

Organizations are aligning their activities with international norms and legislation by integrating environmental objectives into their strategic frameworks and operational policies [3]. But there are a lot of obstacles in the way of organizations adopting consistent and meaningful environmental behaviour. There is more to fostering true green practices than just following regulations or coordinating environmental objectives with business plans.

Acts of proactive, voluntary action motivated by passion and a strong feeling of commitment are hallmarks of true environmental stewardship. This emphasizes the vital importance that personal attitudes, convictions, and values play in furthering environmental projects. Therefore, influencing employees' intrinsic motives and ecological consciousness is just as important as implementing structural and legislative changes in order to promote meaningful environmental behaviour [4-5].

As a result of this advancement, Green Human Resource Management (Green HRM), a paradigm that advocates for incorporating environmental goals into human resource practices, arose. Green HRM seeks to improve sustainability outcomes for individuals and companies by integrating HR practices with environmental goals [6]. Understanding how Green HRM affects green workplace behaviour is critical as firms strive to increase their commitment to environmental sustainability. This study aims to shed light on how Green HRM affects workers' participation in sustainable practices and how HR methods can best support company sustainability goals [7]. Since they encourage ecologically friendly actions and behaviour in the workplace, Green HRM (Green Human Resource Management) approaches have attracted a lot of interest in the management community [8–9].

The relationship between an organization's environmental performance and particular Green HRM practices such as green performance management, green training and development, green incentives and rewards, and employee involvement in environmental initiatives has been the subject of extensive research [10–11]. Nevertheless, despite the large amount of research on Green HRM, little is known about the mechanisms by which these practices affect organizational results. Specifically, little research has been done on the psychological and social mechanisms that govern the degree and regularity of eco-friendly actions taken by management in reaction to Green HRM policies. This draws attention to a significant gap in the literature and emphasizes the necessity of more research into the fundamental principles of Green HRM and how they affect environmentally friendly workplace practices [12]. A thorough comprehension of the interplay between psychological and institutional factors is essential for tackling the intricacy of individuals green behaviour. While there is a relationship between managers' engagement and green HRM practices, it is intricate, multidisciplinary, and influenced by social and psychological aspects [13].

Several studies have focused on various theoretical frameworks to examine employees' green behaviour. Notable theories include the value-belief-norm theory [14], the normative conduct theory [15], the theory of planned behaviour [16-17], and the norm activation model [18]. Additionally, researchers have applied the technology acceptance model [19] and social identity theory [20] to explore green behaviour in organizational contexts. Although various research suggested a link between GHRM policies and employees' green behaviour [21] there is limited study with reference to the impact of GHRM on managerial behaviour. Considering this gap, the present study aims to identify the impact of green HRM behaviour on the managers performance and retention in IT industry across India. The study also highlights the relationship between the Green HRM components. Additionally, the study clarifies the social and psychological dynamics that managers encounter when participating in environmental activities; this method offers a more sophisticated comprehension of the factors that impact green behaviour in work environments. Additionally, by highlighting the importance of integrating institutional and human components to promote an environmentally friendly workplace culture, it broadens local

enterprises' awareness of global environmental sustainability projects. By offering perspectives that may encourage more sustainable business practices, this distinctive regional focus contributes to the global sustainability discourse.

2. Methodology
2.1 Data Collection

This study employed a quantitative cross-sectional methodology, utilizing data gathered through an online questionnaire, to achieve its research goals. The poll was directed at workers in IT clusters around India, with a focus on Hyderabad, Gurgaon, and Bengaluru (Bangalore). For the study, 310 responses from a strong sample were examined. Regarding its dynamic difficulties, the IT sector which is known for its competitiveness and innovation-driven nature was selected as the contextual backdrop. Among these are the frequent upgrades and quick obsolescence of technologies, which frequently occur within yearly cycles, as well as the revolutionary influence of artificial intelligence, which is changing operating paradigms. The study employed a purposive sampling technique to find and choose 310 participants, particularly those who were highly familiar with and involved with Green HRM practices. Using multi-dimensional items assessed on a 5-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," the data collection approach ensured a detailed and nuanced characterization of the constructs being studied.

2.2 Hypothesis Development

Green Human Resource Management (Green HRM) practices have emerged as vital pillars in advancing organizational sustainability objectives. By integrating HRM processes with environmental strategies, these practices influence key organizational outcomes, including employee performance and retention [22]. This study explores the role of critical Green HRM dimensions—Green Ability, Green Motivation, Awareness of Green HRM Practices (AGHRM), and Identifying Challenges in Implementation (ICGHRM) in shaping managerial performance and retention. To achieve this, four hypotheses have been developed to examine the extent to which these Green HRM practices impact managerial behaviour and decision-making, providing a comprehensive understanding of their influence on sustainability-oriented leadership.

H1 – there is correlation between managers performance and green ability

The hypothesis (H1) highlights the importance of environmental skills in promoting managerial success by putting forth a relationship between managers' performance and their green ability. The knowledge, abilities, and proficiency needed to establish and advance sustainable practices inside a company are collectively referred to as green ability. Strong green managers are better able to coordinate their staff with the sustainability objectives of the company, which promotes strategic alignment and enhances performance results. By finding environmentally friendly solutions that improve operational efficiency while lessening their influence on the environment, managers can also spur innovation. Furthermore, as workers are more likely to be motivated and engaged by leaders that place a high priority on sustainability, showcasing proficiency in green techniques can increase team engagement.

H2 - there is correlation between managers performance and green motivation

The hypothesis (H2) highlights the impact of both internal and external factors on managers' efficacy in advancing sustainability by proposing a relationship between managers' performance and their green motivation. The term "green motivation" describes managers' zeal and dedication to implementing and promoting ecologically friendly activities. High green motivation managers are more likely to encourage their staff to adopt eco-friendly practices, give sustainability top priority in their decision-making processes, and actively participate in projects that support

corporate environmental goals. This drive may come from external forces, corporate incentives, or personal values all of which support the development of a sustainable culture. Managers can improve team productivity, operational efficiency, and alignment with more general sustainability goals by incorporating green motivation into their leadership style. This will eventually show in their performance. By highlighting its significance as a key factor in effective and long-lasting leadership, testing this hypothesis seeks to determine the degree to which green motivation influences managerial outcomes.

H3 - there is correlation between managers performance and AGHRME

The awareness of green HRM practices among managers and employees (AGHRME) and managers' performance are correlated, according to hypothesis (H3). This link emphasizes how important awareness is as a key component of improving management performance in the framework of organizational strategies driven by sustainability. Understanding frameworks, strategies, and policies that support environmental sustainability such as green hiring, performance management, training, and incentives is part of being aware of green human resource management practices.

A coherent corporate culture is fostered when managers and staff are knowledgeable of Green HRM practices. This leads to a common understanding and dedication to sustainability goals. Knowing these practices puts managers in a better position to incorporate them into their leadership tactics, which will help their teams meet environmental goals and perform better. Managers may better execute eco-friendly projects, encourage sustainable behaviour from staff members, and spur process innovation with this awareness, all of which improve performance. By assessing the degree to which managerial outcomes are impacted by knowledge of Green HRM practices, testing this hypothesis seeks to shed light on the function of organizational learning and knowledge sharing in advancing sustainability.

H4 - there is correlation between managers performance and ICGHRM

According to hypothesis (H4), managers' performance and their capacity to recognize the obstacles to implementing green HRM practices (ICGHRM) are correlated. This theory emphasizes how important it is for managers to be able to identify and resolve issues that prevent sustainability-focused HR activities from being carried out successfully. Resource limitations, low staff involvement, change aversion, poor training, or a lack of corporate support are some of the obstacles to adopting green HRM practices.

Green HRM policies will be implemented more smoothly if managers are able to recognize these obstacles and create solutions to overcome them. This capacity not only demonstrates their aptitude for strategic planning and problem-solving, but also their dedication to creating an eco-friendly workplace. Managers may increase team alignment with sustainability goals, promote more effective adoption of green practices, and boost operational efficiency by proactively addressing hurdles. By examining the connection between management effectiveness and the capacity to overcome obstacles in the implementation of Green HRM, this hypothesis test seeks to shed light on the skills necessary for long-term leadership.

The research model comprises all the constructs of Green HRM are provided below:
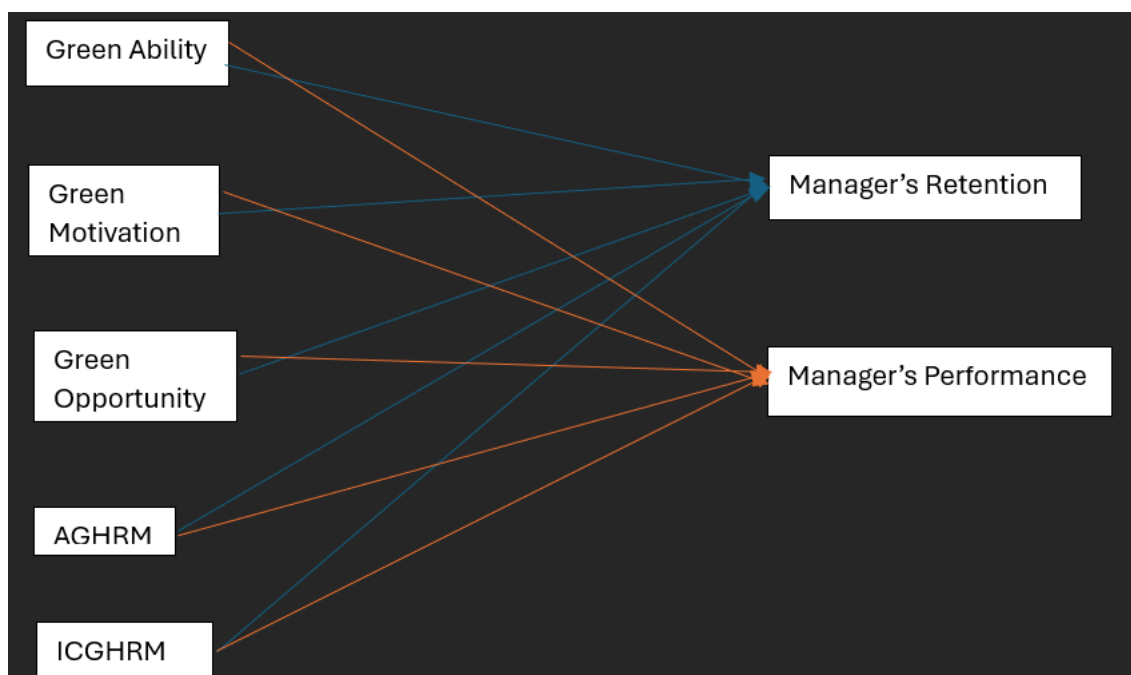
Figure 1: Framework of research model

2.3 Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 25 was used to prepare and assess the data before the analysis started. Addressing missing values, locating outliers, and performing tests for homoscedasticity, multicollinearity, linearity, and normality were all part of this procedure. Cronbach's alpha and composite reliability were used to evaluate the measurement scales' reliability, guaranteeing internal consistency for every variable. The Heterotrait-Monotrait Ratio (HTMT) approach was used to test discriminant validity to assess validity. By comparing the square root of the Average Variance Extracted (AVE) with the correlation coefficients of other variables, the questionnaire's discriminant validity was also assessed, a greater AVE root value denoted discriminant validity. AMOS version 24 was used to conduct Confirmatory Factor Analysis (CFA) to evaluate concept validity and model fit. Green Ability, Green Motivation, Employee Performance, Employee Retention, Manager and Employee Awareness of Green HRM Practices (AGHRME), and Identification of Challenges in Implementing Green HRM Practices (ICGHRM) were among the important constructs that were explored. Lastly, the associations between the variables and underlying latent constructs were examined using structural equation modelling, or SEM. This statistical method provides a thorough understanding of the relationship between Green HRM practices and managerial outcomes by combining the concepts of regression analysis to assess the predictive relationships between sets of variables and factor analysis to identify latent factors from observed variables.

3. Results

The respondent profile of the 310 executives was aptly represented by 215 males (69.35%) and with 95 females (30.65%). Majority of the respondents were in the age group of 28-33 years (53.22%) followed by the age group of 34-39 years (21.93%), age group 40-45 years (17.09%), and there were 24respondents in the age group of above 45 years (7.74%). In terms of educational level, 170 respondents (54.83%) were holders of a bachelor's degree, while 113 respondents were Postgraduate (36.45%). Only 8.70% of the respondents were PhD. The majority of respondents were in the executives (35.48%) followed by middle levels (32.58%), Seniors (28.06%) and 3.87% of the respondents were in the top management. The data for the respondents are collected from companies like Accenture, Novo Nordisk, Zomato, Novartis, Deloitte etc. Table 1 presented below provides the demographic profile for the managers in the company.

Table 1: Demographic Profile for Managers

		N	%
Gender	Male	215	69.35
	Female	95	30.65
Age	28-33	165	53.22
	34-39	68	21.93
	40-45	53	17.09
	46-51	24	7.74
Education	Bachelors	170	54.83
	Masters	113	36.45
	PhD	27	8.70
Designation	Executive	110	35.48
	Middle	101	32.58
	Senior	87	28.06
	Top Management	12	3.87

3.1 Confirmatory Factor Analysis

A reliable approach to statistics for confirming the factor structure of observable variables and their correspondence with underlying latent notions is confirmatory factor analysis, or CFA. Using theoretical presumptions, this method determines if the results fit a proposed measurement model. CFA guarantees that each construct is appropriately represented by its items, enabling robust measurement, by analyzing the link between observable variables (indicators) and their associated latent constructs. It is especially useful for evaluating abstract concepts that can be inferred from observed signs but cannot be evaluated explicitly, such attitudes or talents. In this situation, CFA aids in ensuring that the indicators linked to each construct accurately assess only that particular construct, bringing clarity and accuracy to the research design.

CFA has two main functions in this study. Green Ability, Green Motivation, Employee Performance, Awareness of Green HRM Practices among Managers and Employees (AGHRME), and Identification of Challenges in Implementing Green HRM Practices (ICGHRM) are among the key constructs that are defined first. These constructs are crucial for managerial performance and sustainability. These constructs are validated to ensure they accurately represent the theoretical concepts under investigation. Second, CFA helps create a measuring model that adheres to the one-dimensionality principle, which states that every construct is assessed using a variety of unique indicators [23]. This prevents overlap with other constructs and guarantees that the elements associated with a given construct measure only that construct. The analysis ensures that the conceptions are conceptually distinct by ensuring one-dimensionality, which makes it easier to test hypotheses with confidence and explain the links between Green HRM practices and managerial outcomes [24]. By conducting the CFA, we were able to evaluate the psychometric elements of the measurement model before proceeding to investigate the interrelationships within the structural model. The confirmatory Factor Analysis model for our study is provided in Figure 2.
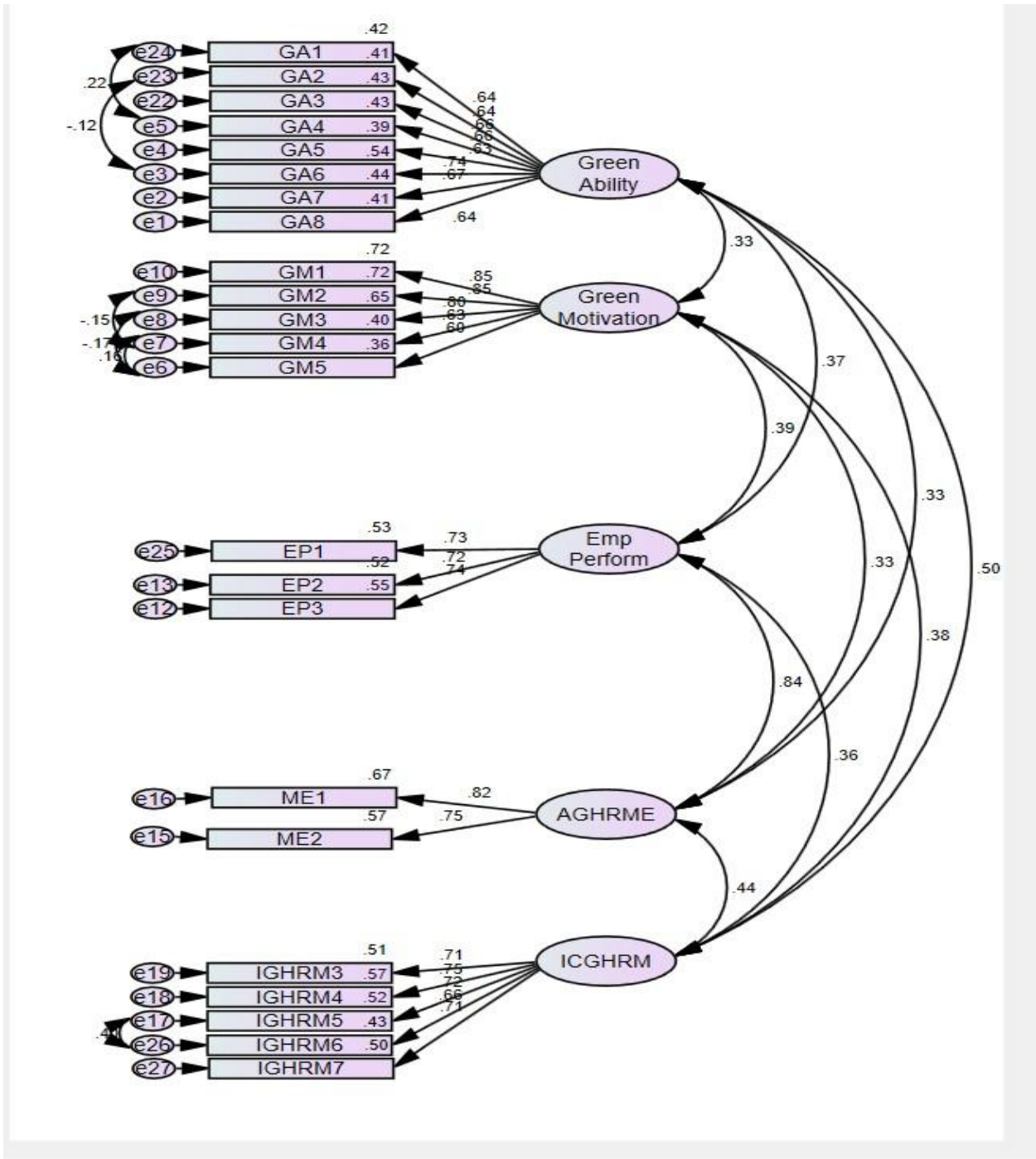
Figure 2. Measurement Model through Confirmatory Factor Analysis

3.2 Model Fit Measurement

A variety of commonly used fit indices, such as the Root Mean Square Error of Approximation (RMSEA), Tucker-Lewis Index (TLI), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Normed Fit Index (NFI), were used by the researchers to assess the model's fit. A model fit is considered satisfactory when the $\chi 2/df$ ratio is less than 3, the RMSEA is less than 0.08, and the NFI, CFI, GFI, and TLI values approach or surpass 0.90, according to established recommendations in the literature. These thresholds were validated by the measurement model's results, which showed a good fit between the model and the data (see Table 2 and 3). The table provides an evaluation of the model's fit using various indices, offering insights into how well the hypothesized measurement model represents the observed data. The Normed Fit Index (NFI) value of 0.893, though slightly below the ideal threshold of 0.90, indicates an acceptable fit, suggesting that the model explains a substantial proportion of the covariance in the data.

Similarly, the Relative Fit Index (RFI) at 0.868 falls short of 0.90, implying a reasonable but improvable representation of the data structure. On the other hand, the Incremental Fit Index (IFI) of 0.925 and the Tucker-Lewis Index (TLI) of 0.907 both exceed the 0.90 benchmark, signalling strong model performance and reflecting incremental and complexity-adjusted improvements, respectively. The Comparative Fit Index (CFI), also at 0.924, corroborates this conclusion, showing a close alignment between the model and the data.

In terms of parsimony-focused measures, the Parsimonious Normed Fit Index (PNFI) and the Parsimonious Comparative Fit Index (PCFI) are 0.727 and 0.753, respectively. While these values are slightly below the recommended threshold of 0.90, they indicate a reasonable balance between model simplicity and explanatory power. The FMIN value of 1.78, representing the discrepancy function, is relatively low, suggesting minimal divergence between observed and model-implied covariance matrices. Additionally, the chi-square statistic (CMIN = 635.885) and the normalized chi-square value (CMIN/DF = 3.087) are slightly above the acceptable range, reflecting a moderate fit. However, given the sensitivity of chi-square statistics to large sample sizes, reliance on other indices is more appropriate for assessing model adequacy.

Table 4: RMSEA of default and independent model

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.044	.035	.053	.867
Independence model	.196	.190	.202	.000

Table 5: Model fit result

Indices	Values
NFI	0.894
RFI	0.875
IFI	0.958
TLI	0.949
CFI	0.957
PNFI	0.757
FMIN	1.109
CMIN	342.821
CMIN/DF	1.602
PCFI	0.809

3.3 Reliability and Validity

Three important elements were investigated to fully assess the measurement model: discriminant validity, convergent validity, and internal consistency reliability. Using Composite Reliability (CR) and Cronbach's Alpha (CA), internal consistency was evaluated and both measures exceeded the commonly accepted standard of 0.70, confirming that the items in each construct reflect the same latent variable. Strong item intercorrelation is highlighted by the high internal consistency, which supports the validity and accuracy of the measuring scales used in this investigation.

By examining each construct's factor loadings (FL) and average variance extracted (AVE), convergent validity was evaluated. A significant association between the items and their corresponding constructs was indicated by the fact that all item loadings were higher than the suggested cutoff of 0.40. Additionally, all constructs' AVE values exceeded the 0.50 threshold [24], indicating that each construct accounts for a larger percentage of variance from related items than variance due to measurement error. Together, these results validate strong convergent validity, guaranteeing that the constructs accurately capture the theoretical aspects they are

intended to assess. It is significant to demonstrate that constructs are different from one another in order to avoid undue overlap, even though the original evaluation did not specify the discriminant validity tests. Discriminant validity guarantees that every construct reflects a distinct facet of the topic being studied. The square root of the AVE values is sometimes compared with inter-construct correlations as a means of verifying this. The validity and uniqueness of the constructs within the measurement model can be verified by researchers by showing that the square root of the AVE for a construct is greater than its correlations with other constructs.

The validity of the constructs was supported by the measurement model in Table 6, which showed significant convergent validity and internal consistency reliability. The whole evaluation would be strengthened by further discriminant validity analysis, which would guarantee that the constructs evaluated are both unique and indicative of the underlying theoretical framework.

Table 6: **Validity analysis through Heterotrait-Monotrait Ratio (HTMT) method**

	Green Ability	Green Motivation	Employee Performance	AGHRME	ICGHRM
Green Ability					
Green Motivation	0.374				
Employee Performance	0.384	0.451			
AGHRME	0.342	0.357	0.833		
ICGHRM	0.488	0.417	0.350	0.429	

The comparison of the correlation coefficient and the AVE (Average Variance Extracted) root value demonstrates the discriminant validity of the questionnaire. The questionnaire is discriminant valid if the AVE root value is higher than the correlation coefficient with other factors. All of the statement items are bigger than the correlation of the pertinent variables, as shown by the results of the AVE root test and the correlation coefficient in Table 7. Therefore, discriminant validity is satisfied, indicating that every statement accurately captures the issues in this research and aligns with the real situation in the study's object.

Table 7: composite reliability, AVE root test and Correlation Coefficient

	CR	AVE	Green ability	Green motivation	Employee performance	Aghrme	ICGHRM
Green ability	0.860	0.435	0.660				
Green Motivation	0.865	0.568	0.334***	0.753			
Employee performance	0.776	0.536	0.371***	0.387***	0.732		
AGHRME	0.766	0.621	0.330***	0.326***	0.836***	0.788	
ICHRME	0.836	0.506	0.497***	0.376***	0.359***	0.438***	0.711

3.4. Structural Equation Modelling for Managers

A structural model is a statistical framework that illustrates how latent (unobserved) and observable (measured) variables relate to one another. According to Bollen (1989), it makes it easier to analyze intricate interactions between variables and test theories regarding them [25]. Regarding Structural Equation Modeling (SEM), the measurement model explores the connections between latent variables and their corresponding observed indicators, whilst the structural model assesses the links between latent variables [26]. The associations between latent variables are described by a collection of regression equations that make up the structural model [27]. Path diagrams are frequently used to illustrate these linkages because they provide a visual representation of the links between latent variables and the direction of these interactions [28]. Researchers can evaluate the degree and direction of causal links and test hypotheses about them by utilizing the structural model.

Structural Equation Modelling (SEM) is employed in this work to distinguish between exogenous and endogenous components [29]. Similar to dependent variables, endogenous variables explain results or repercussions. Employee retention and performance are the endogenous factors in this case. Among the exogenous traits that act as predictors or causes are ICGHRM, AGHR motivation, and green ability. The suggested model is statistically significant, according to the SEM model shown in Figure 3, which produced a chi-square value and a p-value of less than 0.001. This finding demonstrates that the relationships between the variables in the model are legitimate and likely to be relevant within the particular context of the investigation.
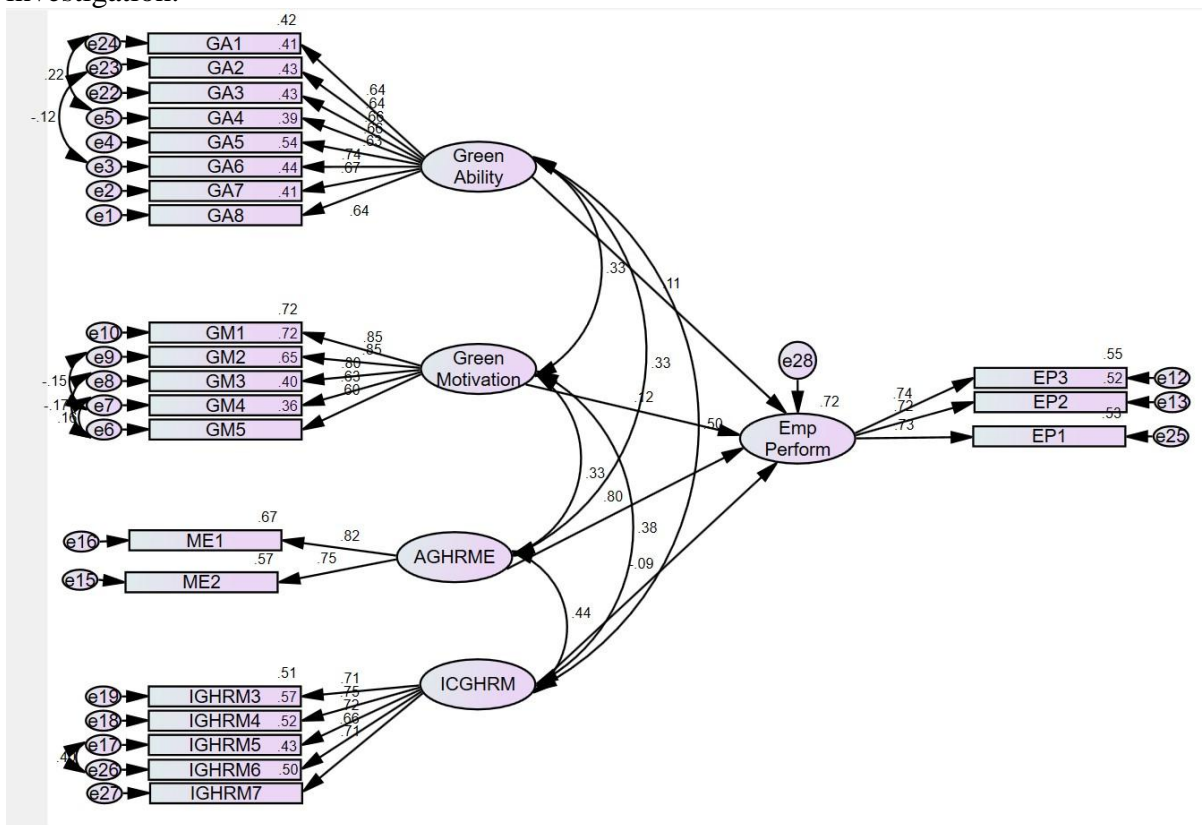

Figure 3. Measurement Model through Structural Equation Modelling

Table 8: Regression weights

			Estimate	S.E.	C.R.	P	Label
Employee performance	<---	Green Ability	.128	.076	1.683	.092	par_31
Employee performance	<---	Green motivation	.136	.067	2.022	.043	par_32

			Estimate	S.E.	C.R.	P	Label
Employee performance	<---	Aghrme	.744	.084	8.844	***	par_33
Employee performance	<---	ICGHRM	-.082	.065	-1.255	.210	par_34

The findings provided in Table 8 shed light on the links between numerous constructs and managerial performance. Awareness of Green HRM Practices among Managers and Employees (AGHRME) was identified as a significant factor, with a p-value of less than 0.01, indicating a strong statistical link with managerial performance. This conclusion supports the adoption of H3, emphasizing the importance of awareness in creating effective managerial engagement with Green HRM practices. Similarly, Green Motivation showed a substantial link with management success (p-value < 0.05), leading to the acceptance of H2. This emphasizes the significance of motivating variables in improving managerial performance, such as connecting personal beliefs with sustainability goals and incentivizing environmentally friendly activities.

In contrast, Green Ability was found to be non-significant, with its p-value exceeding the acceptable threshold, resulting in the rejection of H1. This suggests that while skills and competencies related to Green HRM are necessary, they do not independently predict managerial performance and may require complementary factors like motivation or contextual enablers to drive outcomes. Similarly, Identifying Challenges in Implementing Green HRM Practices (ICGHRM) was also non-significant, leading to the rejection of H4. This indicates that recognizing obstacles in Green HRM implementation does not directly influence managerial performance, although it remains an essential step in refining practices and addressing barriers.

The correlation given in Table 9 sheds light on the correlations between key constructs in the context of Green HRM practices. The correlation between Green Ability and Green Motivation (0.334) indicates a moderately positive relationship, implying that as Green HRM skills and competencies improve, so does motivation to engage in sustainable practices, though the relationship is not particularly strong. Similarly, the connection between Green Motivation and Awareness of Green HRM Practices (AGHRM) (0.326) indicates that persons who are more driven are also more likely to be aware of Green HRM practices, stressing the importance of motivation and knowledge. The association between Identifying obstacles in Implementing Green HRM (ICGHRM) and AGHRM (0.438) is reasonably strong, indicating that as people become more aware of Green HRM practices, they are better able to recognize obstacles in their implementation. A comparable moderate connection (0.330) is seen between Green Ability and AGHRM, showing that improved skills in Green HRM contribute to increased knowledge of these practices. Among the correlations, the largest correlation is between ICGHRM and Green Ability (0.497), demonstrating a significant link in which enhanced abilities are directly related to understanding and overcoming the problems of implementing Green HRM practices. subsequently the correlation (0.376) between ICGHRM and Green Motivation indicates an essentially favourable association, implying that motivation is related to how implementation challenges are viewed and managed.

Table 9: Correlation between different latent variables

			Estimate
Green Ability	<-->	Green motivation	.334
Green motivation	<-->	Aghrm	.326
ICGHRM	<-->	Aghrm	.438
Green Ability	<-->	Aghrm	.330
ICGHRM	<-->	Green Ability	.497

			Estimate
ICGHRM	<-->	Green motivation	.376

4. Discussion and Implications

The study focused on four main components to examine how Green HRM practices affect managerial performance: Green Ability, Green Motivation, Managers and Employees' Awareness of Green HRM Practices (AGHRME), and Identifying Challenges in Implementing Green HRM Practices (ICGHRM). The results provided important insights into the relationship between these constructs and management performance, revealing clear patterns. The lack of a substantial correlation between Green Ability and managing performance suggests that having the skills and competences required for Green HRM does not necessarily transfer into better managerial outcomes [30]. This emphasizes that skills by themselves may not be enough to spur performance gains; additional elements like systemic support or incentive may be needed. Green motivation, on the other hand, demonstrated a strong positive correlation with managerial performance, highlighting the crucial role that both internal and external motivators have in influencing managers' ability to successfully embrace and apply sustainable methods [31]. Managers' performance is probably improved when they are motivated to match their efforts with organizational environmental goals [32-33].

Additionally, the analysis revealed a strong correlation between AGHRME and managerial performance, suggesting that awareness is a crucial facilitator for successfully incorporating Green HRM principles. Increased awareness gives managers the skills they need to carry out sustainability projects and match their procedures with company goals, which improves results. ICGHRM and managerial performance, however, did not significantly correlate. The findings imply that simply identifying obstacles does not immediately improve managerial effectiveness, even while acknowledging difficulties is crucial for improving Green HRM initiatives. It could be necessary to address these issues with organizational support and workable solutions that result in noticeable performance gains.

These results have significant ramifications for practice and research. Given the importance of Green Motivation and AGHRME, companies ought to give top priority to projects that boost managers' motivation, like rewarding environmentally friendly conduct and coordinating sustainability goals with individual beliefs. Additionally, raising awareness of Green HRM practices through focused training and clear communication can enable managers to work more productively. The fact that there are no meaningful correlations between ICGHRM and Green Ability highlights how complicated these concepts are and raises the possibility that they could have an indirect or combined effect on performance. In order to build a strong Green HRM culture that encourages managerial excellence in sustainability initiatives, organizations should use a comprehensive approach that incorporates motivation, awareness, skill development, and barrier-resolution techniques.

Furthermore, this study has both theoretical and practical implications in terms of Green HRM and its impact on managerial performance. The findings underscore the critical importance of motivation and awareness in driving managerial performance, while also emphasizing the limitations of abilities and the recognition of problems as independent determinants. These observations lay the groundwork for future research and practical actions to improve corporate sustainability initiatives. By determining which constructs have the biggest effects on management performance, the study adds to the expanding corpus of research on Green HRM. The strong correlations shown between Green Motivation, Awareness of Green HRM Practices (AGHRME), and management performance underscore the significance of informational and psychological elements in encouraging environmentally friendly workplace practices. A more nuanced understanding of the ways in which Green Ability and Identifying Challenges in

Implementing Green HRM Practices (ICGHRM) interact with contextual and motivational variables is necessary, as the study highlights the limited direct influence of these constructs. Building on these findings, future studies can investigate the mediating or moderating elements such as organizational culture, leadership support, or technical enablers that close these disparities.

For professionals, the study offers actionable insights into developing and executing effective Green HRM initiatives. Organizations can prioritize increasing managerial motivation by linking sustainability goals to personal and professional values, rewarding eco-friendly activities, and encouraging intrinsic commitment to environmental goals. Furthermore, raising consciousness about Green HRM practices through focused training programs, workshops, and marketing efforts can provide managers with the knowledge required to effectively apply these practices. While Green Ability is vital, it must be combined with supportive mechanisms and inspirational frameworks to provide significant results. Similarly, while identifying problems in Green HRM adoption is critical, actionable efforts must be taken to eliminate these barriers in order to assure long-term performance improvement.

5. Conclusion

This study emphasizes the importance of Green HRM practices in moulding management performance, with a focus on incentive and awareness as drivers of sustainable workplace behaviours. While Green Motivation and Awareness of Green HRM Practices (AGHRME) emerged as significant predictors of improved managerial performance, the data suggest that Green Ability and Identifying Challenges in Green HRM Implementation (ICGHRM) may not have a direct impact on performance outcomes. These findings underline the importance of firms taking a comprehensive and integrated strategy to fostering a strong Green HRM culture, integrating skill development, motivational frameworks, and effective communication tactics. Organizations can improve managerial performance and support larger environmental sustainability projects by coordinating sustainability goals with individual and organizational objectives. To further understand the potential of Green HRM in promoting organizational and environmental success, future research should use longitudinal designs, examine the interaction of mediating and moderating factors, and broaden the context outside the IT industry.

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