

THE IMPACT OF GREEN HRM ON EMPLOYEE SKILL DEVELOPMENT FOR SUSTAINABILITY INITIATIVES

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ABSTRACT

In today's business environment, organizations are increasingly prioritizing sustainability. Green Human Resource Management (GHRM) has emerged as a critical strategy for advancing environmentally responsible practices. This study examines how GHRM contributes to employee skill development, particularly in relation to sustainability initiatives. By employing both qualitative and quantitative research methods—including surveys, Chi-Square tests, ANOVA, and ranking methods—this research assesses the effectiveness of GHRM practices in enhancing the competencies required for sustainability. The findings highlight the significance of customized training programs and effective knowledge-sharing practices in achieving organizational sustainability goals.

Keywords: Green HRM, Employee Skill Development, Sustainability Initiatives, Training Programs, Organizational Competence.

I. INTRODUCTION

“Green HRM is not merely a trend; it represents a fundamental shift in our approach to the future of work and sustainability.”

In the contemporary business environment, sustainability has become a key focus for organizations worldwide. Green Human Resource Management (GHRM) embodies a strategic approach where HR practices align with environmental objectives to foster a sustainable work environment [1,2]. This paper investigates how GHRM practices, such as training and development programs, affect employee skill development concerning sustainability initiatives. By exploring how these practices improve employees' competencies, the study seeks to provide insights into optimizing HR strategies to meet environmental goals.

As businesses increasingly adopt green practices, it is essential for employees to have the skills needed to contribute effectively. GHRM practices aim to build these skills through various methods, including specialized training programs, workshops, and continuous learning opportunities. Understanding the link between these practices and skill development can help organizations create more effective strategies to achieve their sustainability objectives.

II. LITERATURE REVIEW

The impact of Green HRM on employee skill development has been extensively documented in academic research.

Ahmed [3] highlighted that integrating green initiatives into corporate practices requires a shift in HR policies to improve employee skills related to sustainability. The study underscores the importance of GHRM in offering technical and managerial training essential for effective environmental management. Shueb argues that companies should incorporate sustainability into their HR practices to ensure that employees are aware of environmental issues and possess the skills needed to address them.

Arulrajah et al [4] investigated how GHRM practices, including employee education and awareness of green policies, influence employees' personal and professional behaviours. Their research emphasizes the significance of continuous skill development in aligning employee actions with environmental goals. The authors also note that ongoing learning opportunities within GHRM frameworks can significantly enhance employees' contributions to sustainability initiatives.

Henarath et al [5] examined the crucial role of human resources in shaping an organization's long-term culture. The study suggests that comprehensive GHRM practices are vital for developing employee capabilities that support environmental management systems. Henarath et al [5] further argues that GHRM fosters an organizational culture that values environmental stewardship and integrates it into daily business operations.

Sharma [6] assessed the effectiveness of GHRM in Indian service industries, focusing on how training programs boost environmental awareness and skills.

The study demonstrates that targeted training enhances employee engagement in sustainability practices and increases employee satisfaction and retention, as employees feel more aligned with their organization's environmental values.

Akanksha Jain [7] explored the integration of Green HRM into organizational sustainability practices. The paper defines Green HRM as embedding environmental considerations into HR functions such as recruitment, training, and performance management. Jain emphasizes the role of Green HRM in aligning employee behaviour with sustainability goals, enhancing organizational reputation, and fostering a culture of environmental responsibility. The study provides a comprehensive overview of how Green HRM can drive sustainability within organizations, highlighting its practical applications and benefits.

Collectively, these studies highlight the significance of GHRM in enhancing skills related to sustainability. Effective GHRM practices are crucial for achieving organizational sustainability goals and promoting a culture of environmental responsibility. They also underscore the need for organizations to continually adapt and refine their GHRM strategies to address evolving sustainability challenges and opportunities.

III. THE OBJECTIVES OF THE STUDY

• **To evaluate the impact of GHRM practices on employee skill development for sustainability initiatives:** This objective involves assessing how various GHRM practices contribute to the enhancement of employees' skills related to sustainability. The analysis includes evaluating the effectiveness of training programs, workshops, and knowledge-sharing initiatives in developing these competencies.

• **To identify and assess effective GHRM training programs and their influence on skill development:** This objective focuses on exploring different training methods used within GHRM practices and their impact on skill development. The aim is to determine which programs are most effective in preparing employees to meet sustainability goals.

IV. SIGNIFICANCE OF THE STUDY

This study is significant for several reasons. As environmental concerns become more pressing, organizations must integrate sustainability into their operations. GHRM practices play a crucial role in equipping employees with the skills needed

to support these initiatives. By understanding the impact of GHRM on skill development, organizations can refine their HR strategies to enhance employee competencies related to sustainability. This approach not only aids in achieving organizational sustainability goals but also boosts overall corporate performance and competitiveness. The results provide valuable insights for HR professionals and organizational leaders, highlighting the importance of implementing effective GHRM practices and training programs aligned with sustainability objectives. By fostering skill development, organizations can achieve improved environmental outcomes and strengthen their commitment to corporate social responsibility. This research employs a mixed-methods approach to gather data on the impact of GHRM practices on employee skill development.

V. METHODOLOGY

The study utilizes a mixed-methods approach, combining both qualitative and quantitative research techniques to analyze the impact of GHRM practices on employee skill development. The research design includes:

Surveys:

Data were collected from employees across various organizations implementing GHRM practices. The surveys assessed employee perceptions regarding the effectiveness of different training programs and workshops.

• Chi-Square Tests:

Statistical analyses were performed to determine the relationship between GHRM practices and employee skill enhancement. Chi-Square tests identified significant associations between variables.

• ANOVA:

Analysis of Variance (ANOVA) was used to compare the effectiveness of various training programs. This method helped evaluate which programs had a greater impact on skill development.

• Ranking Methods:

Employee feedback was analyzed to rank the effectiveness of different training programs. This approach provided insights into which types of training were most valued by employees.

Primary Data Collection:

Surveys: Distributed to employees across various sectors to collect quantitative data on their experiences with GHRM training programs and skill development related to sustainability. The surveys included questions about the effectiveness of different training methods and their impact on skill enhancement.

Questionnaires:

Administered to HR managers and sustainability officers to gather detailed information on the effectiveness of GHRM practices and training programs. These questionnaires offered context and insights into the practical aspects of GHRM implementation and its impact on employee skill development.

Secondary Data Collection:

Literature Review:

Analyzes existing research on GHRM practices and their effects on skill development for sustainability. This review includes scholarly articles, case studies, and industry reports.

Case Studies:

Examines organizations that have successfully implemented GHRM practices to understand their approach to employee skill development and sustainability.

Statistical Tools:

- Chi-Square Test
- ANOVA
- Ranking Method
- Percentage Analysis

VI. ANALYSIS AND INTERPRETATION

To examine the relationship between age and the effectiveness of training programs designed to increase awareness of green practices, a Chi-Square test of independence was conducted.

Null Hypothesis (H0): There is no significant relationship between age and the training program.

Alternative Hypothesis (H1): There is a significant relationship between age and the training program.

The Chi-Square test results will provide insights into how age relates to the effectiveness of the training program in enhancing awareness of green practices. By comparing observed data with expected data, the test will determine if a significant association exists between age and the training program. The significance level chosen for the test (typically denoted as α) will establish the threshold for accepting or rejecting the null hypothesis.

A statistically significant result would indicate a meaningful relationship between age and the training program, offering valuable information for organizations to tailor their GHRM practices.

Chi-Square Test Results and Interpretation:

1.Relationship Between GHRM Practices and Skill Development:

Table 1: Chi-Square Test

	Excellent (E)	Good (G)	Fair (F)	Poor (P)	Total	Chi-Square Value	Significance (Sig)
Training Programs	30	45	10	5	90	16.758	0.020
Workshops	35	40	8	7	90	13.489	0.034
Knowledge Sharing	25	50	10	5	90	10.456	0.065

Hypotheses:

H0 (Null Hypothesis): There is no significant relationship between GHRM practices (Training Programs, Workshops, Knowledge Sharing) and employee skill development outcomes.

H1 (Alternative Hypothesis): There is a significant relationship between GHRM practices (Training Programs, Workshops, Knowledge Sharing) and employee skill development outcomes.

Interpretation: The Chi-Square test results indicate significant relationships between GHRM practices and skill development, with p-values less than 0.05. This suggests that GHRM practices significantly influence how employees perceive their skill enhancement. Organizations should emphasize these practices to improve employee competencies related to sustainability.

ANOVA Results and Interpretation:

2. Differences in Skill Development Outcomes Across GHRM Training Programs:

Table 2: ANOVA Results

	Mean Skill Improvement Score
Comprehensive Training	4.6
Online Modules	3.9
Short Workshops	3.3

ANOVA Results:

Source	Sum of Squares	df	Mean Square	F-Value	Sig
Between Groups	6.432	2	3.216	7.530	0.001
Within Groups	20.543	87	0.236		
Total	26.975	89			

Hypotheses:

H0 (Null Hypothesis): There are no significant differences in skill development outcomes among different GHRM training programs.

H1 (Alternative Hypothesis): There are significant differences in skill development outcomes among different GHRM training programs.

Interpretation: ANOVA results indicate significant differences in skill improvement scores among different GHRM training programs, with a p-value of 0.001. Comprehensive Training programs yield the highest mean score for skill development, suggesting their superior effectiveness in enhancing employee skills for sustainability. Organizations should prioritize comprehensive training to maximize skill development outcomes.

Ranking Method Results and Interpretation:

3. Ranking of GHRM Practices Based on Effectiveness:

Table 3: Ranking of GHRM Practices

	Mean Rank
Comprehensive Training	1.3
Workshops	2.6
Online Modules	3.1

Hypotheses:

H0 (Null Hypothesis): There is no significant difference in the effectiveness rankings of various GHRM practices.

H1 (Alternative Hypothesis): There are significant differences in the effectiveness rankings of various GHRM practices.

Interpretation: The ranking method shows the most effective GHRM practice, by Online Modules and Short Workshops. This suggests that comprehensive training is perceived as the most valuable for skill development related to sustainability. Organizations should focus on implementing and enhancing comprehensive training programs to improve employee skills and support sustainability initiatives effectively.

Percentage Analysis Results

Table 4: Distribution of Employee Ratings for GHRM Practices

GHRM Practice	Excellent (%)	Good (%)	Fair (%)	Poor (%)	Total Responses
Training Programs	33.3	50.0	11.1	5.6	90
Workshops	38.9	44.4	8.9	7.8	90
Knowledge Sharing	27.8	55.6	11.1	5.6	90

Interpretation: This table shows the percentage distribution of employee ratings for different GHRM practices. For Training Programs, a significant portion of employees rated them as "Good" (50.0%), while a smaller percentage rated them as "Excellent" (33.3%). Workshops

received the highest percentage of "Excellent" ratings (38.9%), indicating a strong positive perception. Knowledge Sharing had the highest percentage of "Good" ratings (55.6%), suggesting that while valued, it might not be as impactful as other practices.

Table 5: Percentage of Employees Reporting Skill Improvement from GHRM Practices

GHRM Practice	Significant Improvement (%)	Moderate Improvement (%)	Minimal Improvement (%)	No Improvement (%)
Comprehensive Training	60.0	25.0	10.0	5.0
Online Modules	45.0	35.0	15.0	5.0
Short Workshops	40.0	30.0	20.0	10.0

Interpretation: This table presents the percentage of employees reporting various levels of skill improvement as a result of different GHRM practices. Comprehensive Training led to the highest percentage of employees reporting "Significant Improvement" (60.0%), indicating its effectiveness in enhancing skills. Online Modules also demonstrated a strong impact but with slightly lower percentages in the "Significant Improvement" category (45.0%). Short Workshops were perceived as least effective, with a higher percentage of employees reporting only "Minimal Improvement" (20.0%).

Knowledge Sharing: Knowledge-sharing initiatives had a positive effect on skill development, but the results indicate a moderate impact compared to formal training methods.

VII.FINDINGS

1. Impact of GHRM Practices on Skill Development:

Training Programs: Employees who participated in comprehensive training programs reported the highest skill improvement scores. This suggests that detailed and structured training is particularly effective in enhancing competencies related to sustainability.

Workshops: Employees engaged in workshops also demonstrated positive skill development, although the impact was somewhat less pronounced compared to comprehensive training programs.

2. Chi-Square Test Results:

The Chi-Square test results reveal significant relationships between different GHRM practices (Training Programs, Workshops, Knowledge Sharing) and employee skill development outcomes. This underscores the importance of implementing a diverse range of GHRM practices to address various aspects of skill enhancement.

3. ANOVA Results:

The ANOVA results showed significant differences in skill development outcomes among different training programs. Comprehensive training programs were found to be the most effective, followed by online modules and short workshops. This suggests that organizations should prioritize comprehensive and in-depth training methods for optimal skill development.

VIII. DISCUSSION

The findings of this study highlight the crucial role of Green Human Resource Management (GHRM) practices in enhancing employee skills related to sustainability. Comprehensive training programs have emerged as the most effective method for skill development, aligning with previous research that emphasizes the value of detailed and structured training in achieving sustainability goals. Workshops and knowledge-sharing initiatives also contribute positively but to a lesser extent.

The significant relationships identified through the Chi-Square test confirm that different GHRM practices have varying impacts on skill development. This implies that organizations should adopt a multifaceted approach to GHRM, incorporating a mix of training programs, workshops, and knowledge-sharing initiatives to maximize skill enhancement.

The ANOVA results further validate the effectiveness of comprehensive training programs, which provide more extensive and detailed instruction compared to other methods. Organizations seeking to improve employee competencies related to sustainability should consider investing in robust training programs that offer in-depth knowledge and practical skills.

IX. CONCLUSION

This study highlights the essential role of GHRM in advancing employee skills related to sustainability. The research shows that GHRM practices, including training programs, workshops, and knowledge-sharing initiatives, have a significant impact on skill development. The Chi-Square and ANOVA analyses indicate that while all GHRM practices contribute to skill enhancement, knowledge-sharing programs have the most substantial effect on improving employees' competencies related to sustainability.

Organizations aiming to achieve their sustainability goals should focus on implementing and optimizing GHRM practices that effectively build employee skills. By investing in customized training programs and promoting continuous learning, companies can better prepare their workforce to address environmental challenges and contribute to organizational sustainability.

X. FUTURE STUDY

Future research could examine the long-term impacts of GHRM practices on employee skill development and sustainability outcomes to understand their enduring effects. Investigating

the effectiveness of GHRM practices across different industries and regions may reveal best practices and contextual differences. Additionally, qualitative studies, such as interviews or case studies, could provide deeper insights into the challenges and successes associated with implementing GHRM practices. Exploring how emerging technologies, like e-learning platforms and virtual reality, can enhance GHRM practices and training programs might offer new avenues for improvement. Finally, studying how employees' perceptions of GHRM practices influence their engagement and commitment to sustainability goals could further enrich understanding of GHRM effectiveness.

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