

The Impact of Green Human Resource Management on Economic, Environmental and Social Sustainable Development (A Field Study: Hayel Saeed Anam Company for Silos and Mills-Aden)

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Article History	Abstract
Original Research Article	<i>The worsening environmental degradation and global warming have increased the need for sustainable practices. In response, Green Human Resource Management (GHRM) has emerged as a key approach for integrating environmental goals into HR practices, promoting employee green behavior and a sustainable organizational culture through green recruitment, performance management, and employee involvement.</i> Keywords: Green Human Resource Management, Social Sustainable Development, Hayel Saeed Anam Company, Silos, Aden.
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Introduction

Sustainable development requires organizations to balance economic performance, environmental protection, and social responsibility. In this context, Green Human Resource Management (GHRM) integrates environmental considerations into human resource practices such as recruitment, training, performance appraisal, rewards, and employee participation, encouraging employees to support organizational sustainability. GHRM can improve resource efficiency and economic performance, reduce environmental impacts, and promote employee well-being and social responsibility. Therefore, this study examines the impact of GHRM on economic,

environmental, and social sustainable development through a field study at Hayel Saeed Anam Company for Silos and Mills – Aden, with the aim of assessing the application of green HR practices and their contribution to sustainable development. Sustainable development requires organizations to balance economic performance, environmental protection, and social responsibility. In this context, Green Human Resource Management (GHRM) integrates environmental considerations into human resource practices such as recruitment, training, performance appraisal, rewards, and employee participation, encouraging employees to support organizational sustainability. GHRM can

improve resource efficiency and economic performance, reduce environmental impacts, and promote employee well-being and social responsibility. Therefore, this study examines the impact of GHRM on economic, environmental, and social sustainable development through a field study at Hayel Saeed Anam Company for Silos and Mills – Aden, with the aim of assessing the application of green HR practices and their contribution to sustainable development.

Research problem

Despite the recognized role of Green Human Resource Management (GHRM) in achieving Sustainable Development (SD), Yemeni organizations show a significant gap in implementing GHRM practices. Previous studies indicate low integration of green HR policies, revealing a clear gap between awareness and actual implementation. This problem is particularly relevant to Hayel Saeed Anam Company for Silos and Mills, a major Yemeni industrial organization operating in a challenging environment. Therefore, this study examines the implementation of GHRM practices—green recruitment, green training, and green performance appraisal—and identifies the barriers affecting their contribution to sustainable development.

Main question:

How does top management commitment and leadership facilitate or hinder the institutionalization of GHRM practices?

Sub questions:

- 1- What is the current level of implementation of the specific GHRM dimensions (Green Recruitment and Selection, Green performance Management, and Green Employees Involvement) within Hayel Saeed Anam Company for Silos and Mills?
- 2- How do these implemented GHRM practices impact the dimensions of Sustainable Development (Social Sustainability, Environmental Sustainability, and Economic Sustainability) within the investigated organization?
- 3- Are there statistically significant differences in the participants' perceptions of GHRM and Sustainable Development based on their demographic and occupational characteristics (Gender, Educational level, Age, Durations of

relationship with the company, and Department)?

The significance of the research:

Theoretical Significance

This study enriches the limited literature on Green Human Resource Management (GHRM) and Sustainable Development (SD), particularly in developing countries. It addresses the theoretical gap by examining their relationship in the Yemeni context, providing a useful reference for future research and expanding the applicability of global GHRM literature to a different managerial environment.

Practical Significance

1. **Supporting Decision-Making and Top Management:** The study will assess the level of GHRM implementation, identify key challenges, and provide evidence-based recommendations to support green investments, resource efficiency, cost reduction, and organizational competitiveness.
2. **Developing HRM Practices:** The findings will help HR managers develop green policies and practices, particularly green training and performance appraisal, to improve environmental sustainability, operational efficiency, and employee performance.
3. **Providing a Guiding Model for the Industrial Sector:** As a leading industrial company, Hayel Saeed Anam Company for Silos and Mills can serve as a benchmark for other Yemeni industrial organizations seeking to integrate GHRM practices and advance sustainable development.

Research Objectives

The study aims to:

1. Assess the current level of GHRM implementation at Hayel Saeed Anam Company for Silos and Mills.
2. Determine the level of top management support for GHRM implementation.
3. Identify the main challenges hindering GHRM implementation.
4. Provide scientific recommendations to improve the work environment and organizational performance.

Research Conceptual Framework

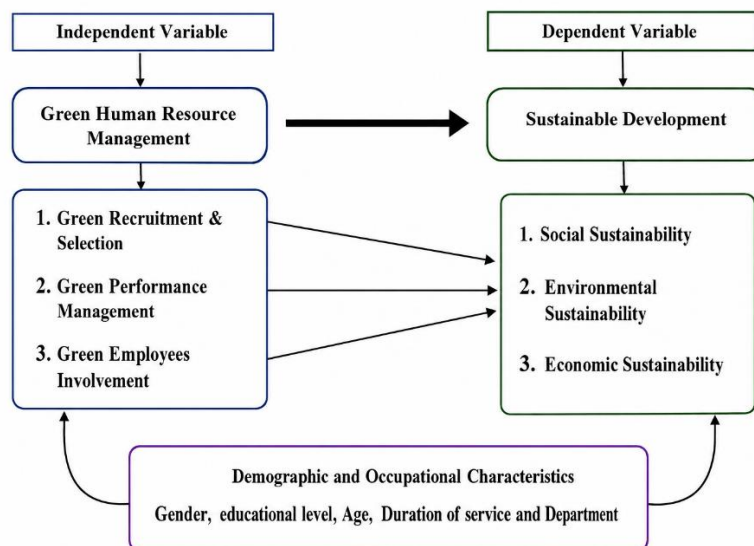


Figure 1-1 Conceptual Framework

The study is based on three main theories:

1. Resource-Based View (RBV): GHRM develops valuable green human capital that can create sustainable competitive advantage and support SD.
2. Ability-Motivation-Opportunity (AMO) Theory: GHRM enhances employees' ability, motivation, and opportunity to engage in environmentally responsible behaviors that support SD.
3. Stakeholder Theory: GHRM helps organizations respond to stakeholders' environmental and social expectations, strengthening legitimacy and supporting sustainable development.

Research Hypothesis

Main Hypothesis (Relating to Effect)

H0: There is no statistically significant effect of Green Human Resource Management (GHRM) on achieving Sustainable Development at Hayel Saeed Anam Company for Silos and Grains at the significance level ($\alpha \leq 0.05$).

Sub-Hypotheses (Relating to Diagnostic Reality)

- H1. There is a high level of application of Green Human Resource Management (GHRM) practices at Hayel Saeed Anam Company for Silos and Grains at the significance level ($\alpha \leq 0.05$).
- H2. There is statistically significant support from Top Management for the implementation of Green Human Resource Management (GHRM) at Hayel Saeed Anam Company for Silos and Grains at the significance level ($\alpha \leq 0.05$).
- H3. There are statistically significant challenges that hinder the effective implementation of Green Human

Resource Management (GHRM) at Hayel Saeed Anam Company for Silos and Grains at the significance level ($\alpha \leq 0.05$).

Limitations of the study

This study aims to provide a thorough understanding of how green human resources management (GHRM) impacts sustainability in the Yemeni industrial sector. However, some limitations may affect the study's findings and how broadly they can be applied. Acknowledging these limitations strengthens the research's credibility and highlights areas for future studies.

Theoretical Framework and Literature Review

Definitions of the Study Variables

Independent Variable: Green Human Resource Management (GHRM)

Green Human Resource Management (GHRM) is a strategic approach that integrates environmental principles into HR practices—particularly green recruitment, green performance management, and green employee involvement—to promote eco-friendly employee behavior and support environmental, social, and economic sustainable development.

Green Recruitment & Selection (The First Dimension of the Independent Variable)

Based on the reviewed literature, Green Recruitment and Selection is operationally defined as the process of attracting and hiring individuals who possess environmental knowledge, skills, and values aligned with the organization's sustainability goals, ensuring that each new employee contributes effectively to the organization's green culture and initiatives.

Green Performance Management(The Second Dimension of the Independent Variable)

Based on the reviewed literature, Green Performance Management is defined as the process of evaluating employees based on their achievement of environmental objectives, encouraging the adoption of eco-friendly behaviors, and ensuring accountability in achieving sustainability indicators.

Green Employee Involvement (The Third Dimension of the Independent Variable)

Based on the reviewed literature, Green Employee Involvement is defined as the active participation of employees in environmental programs and initiatives, whether formal or informal, aimed at fostering a culture of sustainability and improving the organization's overall environmental performance.

Dependent Variable: Sustainable Development (SD)

Sustainable Development (SD) is defined as the integration of economic, social, and environmental practices within organizations through Green Human Resource Management (GHRM) practices, aiming to achieve balanced growth, enhance employee and community well-being, and preserve natural resources, while ensuring that present needs are met without compromising the ability of future generations to meet theirs.

Economic Sustainability (The First Dimension of the dependent Variable)

Based on the reviewed literature, the researcher defines Economic Sustainability as the organization's ability to utilize resources efficiently, enhance productivity, and maintain financial performance while adopting environmentally responsible practices that support long-term organizational growth.

Social Sustainability (The Second Dimension of the dependent Variable)

Based on the reviewed literature, Social Sustainability is defined as organization's role in promoting employee well-being, ethical work conditions, and community responsibility by fostering fairness, participation, safety, and social welfare across its operations.

Environmental Sustainability (The Third Dimension of the dependent Variable)

Based on the reviewed literature, Environmental Sustainability is defined as the organization's environmental outcomes (e.g., reduced pollution, waste, and emissions), directly influenced by GHRM practices and employee green behavior.

Research Gaps

- **Sectoral Gap:** Previous Yemeni studies focused on oil, cement, pharmaceutical, and healthcare sectors, with limited attention to the flour and silos sector, despite its importance to food security and the economy.
- **Institutional Gap:** Few studies have examined GHRM and sustainable development within specific Yemeni industrial organizations, particularly Yemen Company for Flour Mills and Silos – Aden.
- **Integrated Model Gap:** Limited research has simultaneously examined the effects of green recruitment, green performance management, and green employee involvement on the economic, environmental, and social dimensions of sustainable development.

Research Design

The study adopts a quantitative, descriptive–analytical research design. The descriptive component identifies the level of GHRM practices within the company, while the analytical component statistically tests the relationships between GHRM and SD dimensions.

Study Population

The study population comprises approximately 150 employees at the Yemen Company for Flour Mills and Silos – Aden, representing administrative, production, maintenance, quality control, safety, and environmental functions. This diversity provides comprehensive perspectives on GHRM and sustainable development practices.

Study Sample

From the total population of 150 employees, 30 were excluded based on eligibility criteria. Thus, 120 questionnaires were distributed. Of these, 88 valid questionnaires were obtained after excluding 22 non-responses and 10 incomplete/invalid questionnaires, yielding a 73.3% response rate. The final sample comprised 86 males (97.7%) and 2 females (2.3%).

Research Methodology

The study follows a deductive quantitative approach. Data were collected through a structured questionnaire using a 5-point Likert scale. The data were analyzed using SPSS, employing descriptive statistics, Cronbach's Alpha for reliability, and Multiple Linear Regression for hypothesis testing.

Data Collection Sources

Primary Data:

- Questionnaire responses from employees

Secondary Data:

Secondary data was gathered from published academic research, peer-reviewed journals, textbook theories, and relevant company internal records to support the conceptual model and discuss the final empirical results.

Tools Used in the Study:

The main study tool is a structured questionnaire consisting of three sections:

Section 2: GHRM Dimensions (Green Recruitment, Performance Management, Employee Involvement)

Section 3: Sustainable Development (Economic, Social, Environmental)

A five-point Likert scale is used for all items.

Statistical Analysis of Data

SPSS Version 26 is used. Methods include:

- Frequencies and percentages
- Means and standard deviations
- Correlation analysis
- Cronbach Alpha reliability test
- Simple and multiple regression analysis
- ANOVA for group differences
- T-test

Reliability and Validity of the Study Tool

Content Validity: Validated by academic experts.

Construct Validity: Ensured by using dimensions supported by literature.

Reliability: Cronbach's Alpha is expected to exceed 0.70 for all scales.

Ethical Considerations

The study ensured voluntary participation, confidentiality, and anonymity of all respondents. Data were securely handled and used solely for academic purposes. Official approval was also obtained from the company's administration before data collection.

Results and discussion

Results

The study found that GHRM significantly and positively affects Sustainable Development at HSA for Silos and Flour Mills. Green recruitment and selection, green performance management, and employee environmental participation all contribute to the economic, social, and environmental dimensions of SD. The company's commitment to eco-friendly practices and resource efficiency further supports long-term organizational and environmental stability.

Demographic Profile Analysis

This section presents a detailed analysis of the demographic characteristics of the participants, which helps provide context for interpretation of the study findings. A total of 88 valid responses were analyzed, and the results are summarized and interpreted below.

1. Gender Distribution

Table 4-1 Gender of the Respondents (N=88)

Gender	Frequency	Percentage
Male	86	97.7%
Female	2	2.3%
Total	88	100%

Interpretations:

The sample was overwhelmingly male (97.7%), while females represented only 2.3%. This distribution reflects the male-dominated nature of Yemen's heavy industrial and manufacturing sector. Consequently, the findings largely represent the perceptions of the company's operational workforce regarding GHRM practices.

2. Age Distribution

Table 4-2 Age Distribution of the Respondents (N=88)

Age Category	Frequency	Percentage
Under 25 years	0	0%
25 to 35 years	19	21.6%
36 to 45 years	44	50%
More than 45 years	25	28.4%

Interpretations:

The largest group of respondents (50.0%) was aged 36–45 years, followed by those over 45 years (28.4%), and 25–35 years (21.6%). No respondents were under 25. Overall, 78.4% were aged 36 or above, indicating a predominantly mature and experienced workforce capable of providing informed assessments of GHRM and sustainable development practices.

3. Educational level

Table 4-3 Educational level Distribution of the Respondents (N=88)

Educational level	Frequency	Percentage
Bachelor degree	51	58%
Diploma	20	22.7%
High school	11	12.5%
Master and above	6	6.8%

Interpretations:

Most respondents hold higher education qualifications, with 58.0% having Bachelor's degrees, 22.7% Diplomas, 12.5% high-school education, and 6.8% postgraduate degrees. Overall, 64.8% hold a Bachelor's degree or higher, indicating a generally well-educated workforce capable of providing informed assessments of GHRM and sustainable development practices.

4. Duration of relationship with the company

This subsection presents the distribution of the study participants years of service at the company. To provide a clear overview of the sample tenure a statistical table showing frequencies and percentages is detailed below, following by its corresponding graphical representation.

Table 4-4 Duration of relationship with the company Distribution of the Respondents (N=88)

Duration of relationship	Frequency	Percentage
More than 10 years	66	75%
6 to 10 years	10	11.4%
1 to 5 years	10	11.4%
Less than 1 year	2	2.2%

Interpretations:

1. The majority of respondents (75.0%) have worked for the company for more than 10 years, while 11.4% have 6–10 years and 11.4% have 1–5 years of service. Only 2.2% have less than one year. This indicates a highly experienced and stable workforce, strengthening the reliability of their assessments of GHRM and sustainable development practices.

2. Department Distribution

This subsection illustrates the distribution of the study participants across different functional departments. To present a clear and comprehensive view of the sample representations, a statistical table showing frequencies and percentages is detailed below, followed by its corresponding graphical representation.

Table 4-5 Department Distribution of the Respondents (N=88)

Department	Frequency	Percentage
Administration	52	59.10%
Environmental and Safety	13	14.80%
Production	12	13.60%
Human resources	8	9.10%
Maintenance	3	3.40%

Interpretations:

Respondents were distributed across several departments: Administration (59.1%), Environmental & Safety (14.8%), Production (13.6%), HR (9.1%), and Maintenance (3.4%). This cross-departmental representation provides a broad organizational perspective on the implementation of GHRM and its relationship with sustainable development.

Descriptive Statistical Analysis of the Independent Variable: Green Human Resource Management (GHRM)

Descriptive statistics were used to assess the overall level of GHRM implementation and its strategic orientation in the organization. Overall means and standard deviations were calculated for each GHRM dimension to compare the extent of implementation and identify areas requiring further improvement.

Table 4-6 below illustrates the consolidated descriptive statistics for the three main dimensions of Green Human Resource Management, ranked according to their mean scores.

Dimension	Mean	Standard deviation	Rank	Perceived value
Green employees' involvement	3.5758	0.85989	1	High
Green Recruitment and Selection	3.5260	0.74548	2	High
Green Performance Management	3.5057	0.83790	3	High
Overall GHRM	3.5353	0.74836	–	High

Interpretation of the Overall GHRM Dimension.

The results show that GHRM at HSA for Silos & Flour Mills is implemented at a high level, with an overall mean of 3.5353. The standard deviation (0.74836) indicates relatively low variation and strong consistency in employees' perceptions of GHRM practices.

Detailed Descriptive Analysis of the First Dimension: Green Recruitment and Selection (GRS)

The first GHRM dimension assesses the company's integration of environmental values into recruitment and selection, including job descriptions, selection criteria, and recruitment procedures. It consists of seven items measured using a 5-point Likert scale, with means, standard deviations, rankings, and perception levels analyzed.

Table 4-7: Comprehensive Descriptive Statistics for Green Recruitment and Selection (GRS) Items

Question statement	Mean	Standard deviations	Rank	Perceived value
The company prefers candidates who possess environmental awareness	3.65	0.817	1	High
The company attracts candidates committed to sustainable practices	3.59	0.824	2	High
Environmental skills are required for certain job positions	3.58	0.811	3	High
Interviewers include questions on environment knowledge	3.49	0.893	4	High
Environmental criteria are considered during the selection process	3.45	0.835	5	High
Job advertisement highlights environmental responsibilities	3.39	0.912	6	High
The company selects employees who support green value	3.28	0.876	7	High
Composite dimension score	3.52	0.745	–	High

Statistical Interpretation and Corporate Case Context

- Overall Level: Green Recruitment and Selection was high, with a mean of 3.526 and SD = 0.745.
- Highest Item: GRS1—preference for candidates with environmental awareness (M = 3.65).
- Other Strong Items: GRS4 (M = 3.59) and GRS7 (M = 3.58).
- Moderate Items: GRS3 (M = 3.39) and GRS6 (M = 3.28), with GRS6 ranking lowest.
- Interpretation: HSA demonstrates strong integration of environmental considerations into

recruitment, particularly through selecting environmentally aware candidates and attracting sustainability-oriented talent.

- Theoretical Support: The findings support RBV, as green recruitment helps build valuable green human capital, and Stakeholder Theory, by responding to environmental expectations.
- Literature: The results generally align with previous studies, while the lower emphasis on specialized green incentives reflects the local Yemeni industrial context.

Table 4-8: Descriptive Statistics for Green Performance Management (GPM)

Questions statement	Mean	Standard deviation	Rank	Perceived value
Employees are evaluated based on achieving environmental objectives	3.61	0.82	1	High
Environmental performance is clearly communicated to employees	3.55	0.85	2	High
The company rewards employees who show green initiatives	3.51	0.81	3	High
The performance appraisal system includes eco-friendly behavior criteria	3.44	0.89	4	High
Managers monitor compliance with environmental standards	3.36	0.90	5	Moderate
Employees are encouraged to reduce waste and energy consumption	3.24	0.92	6	Moderate
Composite dimension score	3.45	0.75	—	High

Statistical Interpretation and Corporate Case Context.

Green Performance Management (GPM) at HSA is highly implemented (M = 3.451, SD = 0.758). Evaluating employees against environmental objectives (GPM1) ranked highest (M = 3.61), followed by environmental communication (M = 3.55) and rewards for green initiatives (M = 3.51). Encouraging waste and energy reduction (GPM6) ranked lowest (M = 3.24), indicating greater reliance on appraisal and supervisory feedback than punitive measures. Overall, the findings support RBV and Stakeholder Theory and are consistent with prior studies, while reflecting Yemen's preference for supportive rather than punitive environmental management.

Descriptive Statistics for Green Employee Involvement (GEI)-Table 4-9:

Overall Descriptive Statistics for Sustainable Development (Dependent Variable)

This section evaluates the baseline statistics of Sustainable Development (SD) at HSA Silos and Flour Mills Company.

SD is viewed as a multidimensional corporate outcome based on the Triple Bottom Line (TBL), integrating environmental, economic, and social performance.

Inferential Analysis and Hypotheses Testing

Pearson Correlation Analysis (Testing the Correlational Hypothesis)

Null Hypothesis (H₀): There is no statistically significant correlational relationship at the significance level ($\alpha \leq 0.05$) between Green Human Resource Management (GHRM) practices and Sustainable Development (SD) outcomes at Hayel Saeed Anam (HSA) Company.

Alternative Hypothesis (H_a): There is a statistically significant, positive correlational relationship at the significance level ($\alpha \leq 0.05$) between Green Human Resource Management (GHRM) practices and Sustainable Development (SD) outcomes at Hayel Saeed Anam (HSA) Company.

Pearson Correlation Matrix Between GHRM Dimensions and Sustainable Development

Table 4-14: Pearson Correlation Matrix Between GHRM Dimensions and Sustainable Development

GHRM Dimensions	Pearson correlation (r)	Sig.(2-tailed)
Green recruitment and selection (GRS)	0.760	0.000
Green performance management (GPM)	0.794	0.000
Green employees' involvement (GEI)	0.840	0.000
Overall green human resources management (GHRM)	0.865	0.000

Note: Correlations are statistically significant at the 0.01 level (2-tailed)

Empirical Interpretation and Academic Discussion:

The statistical outputs visualized in Table (27) indicate a powerful, positive, and statistically highly significant linear correlation between the variables ($p = 0.000 < 0.01$).

1-Individual Dimensions Linkage:

The empirical data demonstrates that "Employee Participation in Environmental Activities" holds the absolute strongest association with corporate sustainability outcomes ($r = 0.840$), followed systematically by "Green Performance Management" ($r = 0.794$) and "Green Recruitment and Selection" ($r = 0.760$). This proves that active workforce mobilization serves as the most immediate reflection of sustainability achievements on the factory floors.

2- Overall Framework Linkage: Collectively, the composite baseline of the overall GHRM framework exhibits an outstandingly strong linear connection with total Sustainable Development outcomes ($r = 0.865$).

Statistical Decision: Since the computed significance values for all dimensions are strictly 0.000 (which is well below the alpha threshold of 0.05), the null hypothesis (H_0) is completely rejected, and the alternative hypothesis (H_a) is officially accepted. This provides sound statistical proof that upgrading eco-centric HR operations directly co-exists with a higher maturity of sustainable industrial development within HSA Company.

4.5 Multiple Regression Analysis (Testing the Impact Hypotheses).

Main Null Hypothesis (H_0): There is no statistically significant predictive impact of Green Human Resource Management (GHRM) practices on Sustainable Development (SD) outcomes at Hayel Saeed Anam (HSA) Company.

Sub-Null Hypotheses: There is no statistically significant predictive impact of individual GHRM dimensions (Green Recruitment, Green Performance, Employee Participation) on Sustainable Development (SD).

To determine the predictive impact and validate both the main and sub-hypotheses, a Stepwise Multiple Linear Regression was performed, allowing the dynamic filtering of the sub-dimensions based on their statistical significance.

Demographic Perceptual Differences Analysis (T-Test & ANOVA)

Null Hypothesis (H_0): There are no statistically significant differences at the significance level ($\alpha \leq 0.05$) in the respondents' perceptions regarding GHRM practices and Sustainable Development outcomes at HSA Company due to demographic variables (Gender, Age, Educational Qualification, Years of Service, and Department).

Alternative Hypothesis (H_0): There are statistically significant differences at the significance level ($\alpha \leq 0.05$) in the respondents' perceptions regarding GHRM practices and Sustainable Development outcomes at HSA Company due to demographic variables (Gender, Age, Educational Qualification, Years of Service, and Department).

Conclusion and Recommendations

Conclusion

This study aimed to investigate the impact of Green Human Resource Management (GHRM) practices on Sustainable Development (SD) at Hayel Saeed Anam (HSA) Company for Silos and Flour Mills in Yemen. Specifically, the study examined the influence of Green Recruitment and Selection (GRS), Green Performance Management (GPM), and Green Employee Involvement (GEI) on the achievement of sustainable development outcomes.

The findings revealed that the overall implementation of GHRM practices within HSA is at a high level. Among the examined dimensions, Employee Participation in Environmental Activities recorded the highest level of implementation, followed by Green Recruitment and Selection, while Green Performance Management ranked third, although it remained within the high implementation category.

The results also showed that Sustainable Development is highly achieved within the company. Environmental Sustainability ranked first among the sustainability dimensions, followed by Economic Sustainability and Social Sustainability. This indicates that HSA has successfully integrated environmental responsibility, economic efficiency, and social welfare into its organizational operations.

Furthermore, Pearson correlation analysis demonstrated a strong positive and statistically significant relationship between GHRM practices and Sustainable Development. The overall correlation coefficient between GHRM and Sustainable Development reached ($r = 0.865$), confirming that improvements in green human resource practices are associated with higher levels of sustainability performance.

This statistical evidence successfully supports and accepts the main hypothesis (H_1), which posited a significant positive relationship between GHRM practice and Sustainable Development

The regression analysis provided further evidence that GHRM practices significantly predict Sustainable Development. The final regression model explained 75.6% of the variance in Sustainable Development ($R^2 = 0.756$). Employee Participation in Environmental Activities emerged as the strongest predictor, followed by Green Recruitment and Selection. These findings highlight the critical role of employee involvement and environmentally oriented recruitment systems in promoting sustainable organizational outcomes.

Consequently, these regression results provide empirical validation on accept and sub-hypotheses (H_{1a} , H_{1b} , and H_{1c}), confirming that all three GHRM dimensions significantly predict sustainable development outcomes.

Regarding demographic variables, the study found no significant differences in perceptions based on gender, age, or years of service. However, significant differences were identified according to educational qualification and department, indicating that employees with higher educational levels and those working in operational and environmental departments tend to demonstrate stronger awareness of sustainability practices.

In conclusion, the study confirms that Green Human Resource Management serves as an essential strategic mechanism for enhancing Sustainable Development at HSA Company. The integration of green recruitment, environmental participation, and performance management practices contributes significantly to achieving environmental, economic, and social sustainability objectives.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

- 1- Strengthen employee participation in environmental initiatives, as this dimension demonstrated the strongest influence on Sustainable Development.
- 2- Expand green recruitment and selection practices by incorporating environmental competencies and sustainability awareness into all hiring processes.
- 3- Develop a more comprehensive green performance management system that includes measurable environmental performance indicators and reward mechanisms.
- 4- Introduce formal incentive programs to encourage employees to submit innovative environmental ideas and sustainability-related suggestions.
- 5- Increase investment in environmental training programs to enhance employees' knowledge and skills regarding sustainable practices.
- 6- Enhance community environmental awareness programs and strengthen the company's contribution to environmental education within the local community.
- 7- Continue investing in resource-efficiency initiatives aimed at reducing energy consumption, water usage, and operational waste.
- 8- Encourage greater collaboration between departments to ensure organization-wide implementation of sustainability objectives.
- 9- Provide continuous monitoring and evaluation of GHRM practices to ensure their effectiveness in supporting long-term sustainability goals.
- 10- Integrate sustainability considerations into strategic planning and future organizational development initiatives.

Suggestions for Future Research

Future researchers are encouraged to:

- 1- Conduct similar studies in other industrial sectors within Yemen to compare the effectiveness of GHRM practices across industries.
- 2- Examine the role of Green Training and Development as an independent predictor of Sustainable Development.
- 3- Investigate the mediating role of organizational culture in the relationship between GHRM and Sustainable Development.

- 4- Explore the impact of GHRM practices on organizational performance, employee satisfaction, and employee commitment.
- 5- Apply longitudinal research designs to assess the long-term effects of GHRM implementation on sustainability outcomes.
- 6- Compare public and private sector organizations regarding the adoption of green human resource practices.
- 7- Investigate additional sustainability indicators, including environmental innovation and corporate social responsibility.
- 8- Future researchers are recommended to explore the other dimensions not covered in this model due to their scarcity in current literature, such as technological and institutional sustainability, and examine their integration with GHRM.

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