

The Effect of Green Human Resource Management Practices on Enhancing Product Quality: An Empirical Study at Top Gloves Latex Industries, Ain Temouchent, Algeria

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Abstract :

The study aimed to measure the impact of Green Human Resource Management (GHRM) practices on improving product quality at Top Gloves Latex Industries in Aïn Témouchent, Algeria. It adopted a descriptive-analytical methodology, collecting data through a questionnaire distributed to a random sample of 170 employees, analyzed using SPSS version 26. The results revealed a very strong positive correlation between GHRM practices and product quality. The most influential dimensions were green health and safety management (Beta = 0.615) and green recruitment and selection (Beta = 0.180). The study recommends strengthening green health and safety management and green recruitment practices, while developing other dimensions by integrating environmental responsibilities into job descriptions, designing an effective green rewards system, implementing continuous training programs, and pursuing international sustainability certifications to enhance competitive capability.

Keywords: Green Human Resource Management, product quality, Green Recruitment, Green Health and Safety Management, Top Gloves Company

Jel Classification Codes : M12, O15, L25

1. INTRODUCTION

Amid escalating global environmental challenges and ongoing pressures to achieve sustainable development, environmental sustainability has become a strategic priority for organizations across various sectors, including industry. In this context, Green Human Resource Management (Green HRM - GHRM) has emerged as an effective tool for integrating environmental dimensions into human capital management through practices such as green recruitment, environmental training, green job design, green performance management, green rewards, and green health and safety management.

Problem Statement:

Many organizations, particularly in developing countries, continue to face significant challenges in improving the quality of product they provide. This often stems from organizational and human factors, foremost among them being weak human resource performance and the absence of a total quality culture within the organization. Against these challenges, the question arises regarding the extent to which modern managerial approaches—led by Green Human Resource Management—can achieve a qualitative leap in service levels by simultaneously enhancing environmental commitment and human efficiency.

Based on these considerations, there is a need to study the relationship between adopting GHRM practices and improving service quality in local contexts, especially in the private industrial sector. Accordingly, the main research problem is formulated as follows:

To what extent do GHRM practices impact the improvement of Product Quality at Top Gloves company in Aïn Témouchent?

Research Hypotheses:

To answer the sub-questions, the following hypotheses were formulated:

- Hypothesis 1: There is a positive correlation between GHRM practices and Product Quality at Top Gloves company in Aïn Témouchent.
- Hypothesis 2: GHRM practices, with their dimensions, have an impact on Product Quality at Top Gloves company in Aïn Témouchent.

Research Objectives:

The study seeks to achieve the following objectives:

- Evaluate the extent of adoption of GHRM practices (such as green recruitment, environmental training, and green performance appraisal) at Top Gloves company in Aïn Témouchent.
- Measure the level of Product Quality provided by the company's employees across its various dimensions, as perceived by the employees themselves.
- Analyze the correlational relationship between GHRM practices and Product Quality within the work environment at Top Gloves company in Aïn Témouchent.
- Propose a set of scientific and practical recommendations that can contribute to improving human resource management practices and enhancing Product Quality.

Significance of the Study:

This study derives its importance from addressing the relationship between GHRM practices and Product Quality in a local Algerian organization, highlighting its value amid global environmental challenges that have made sustainability a strategic choice for organizations. GHRM practices contribute to integrating the environmental dimension into daily operations and reducing environmental impact. They also help improve

service quality by promoting sustainable behaviors among employees and increasing customer satisfaction. The study gains additional significance due to the scarcity of research in this field within the Algerian context, thereby filling a knowledge gap and opening horizons for future studies on other organizational and financial variables.

Research Methodology:

The study relied on descriptive and analytical approaches, using a questionnaire as the primary data collection tool from a sample of 170 employees in the company, analyzed using SPSS v26 (correlation, simple and multiple regression, analysis of variance).

Previous Studies:

Dilrukshi, M. H. S., & Aluthge, C. (2024). Influence of green human resource practices on sustainable organizational performance: A review of literature. Sri Lankan Journal of Business Economics, 13(1).

This study reviews the literature on the impact of Green Human Resource Management (GHRM) practices on sustainable organizational performance within the Triple Bottom Line framework. Based on a systematic analysis of 66 studies, the authors find that green HR practices—such as green recruitment and selection, green training, green rewards and compensation, and green discipline management—significantly enhance employees' pro-environmental behavior, thereby supporting long-term organizational sustainability. The review also identifies theoretical gaps and offers practical recommendations for integrating sustainability into HR strategies.

Ullah, W., Abbas, S. M., Wei, L., & Nadeem, A. (2024). Green human resource management: A decadal examination of eco-friendly HR practices. Pakistan Business Review, 25(4).

This systematic literature review examines the development and trends of Green Human Resource Management research over more than a decade. Analyzing 70 peer-reviewed articles published between 2007 and 2019, the study highlights a substantial growth in GHRM research, particularly in developing countries, with a predominance of quantitative methodologies. The findings indicate that most studies focus on the effects of GHRM on employee outcomes and organizational performance, while the authors propose future research directions to advance the theoretical and empirical understanding of GHRM.

Ichdan, D. A., & Maryani, M. (2024). Green human resource management practices in the manufacturing industry: A sustainable approach. Annals of Human Resource Management Research, 4(1).

This study explores the adoption of Green Human Resource Management practices in the manufacturing sector as a sustainable organizational strategy. Using survey data from employees and managers, the findings reveal that employees' environmental awareness is the strongest predictor of GHRM implementation, followed by environmental regulations and firms' environmental performance. The authors acknowledge methodological limitations and recommend future research incorporating qualitative approaches and additional internal and external factors to better explain GHRM adoption.

Lawter, L., & Garnjost, P. (2025). Green human resource management and organizational performance: A systematic review. Sustainability, 17(7).

This systematic review investigates the relationship between GHRM and various organizational performance outcomes, including environmental performance, sustainable performance, green innovation, and firm performance. Following the PRISMA 2020 protocol, the authors review 180 studies, with in-depth analysis of 136 full-text articles. The results show that GHRM has a clear positive impact on environmental performance, sustainability outcomes, and green innovation, while its effect on financial performance appears indirect and

less conclusive. The study also identifies emerging research trends and gaps, particularly in Asia and the Middle East.

Previous studies highlight GHRM's strategic role in sustainability and performance through green recruitment and training, especially in developing countries since 2016. Dilrukshi & Aluthge (2024) offered a theoretical review linking GHRM to TBL sustainability but lacked field data and service quality focus. Ullah et al. (2024) called for context-specific studies, which this research applies in Algeria's industrial sector. Unlike Ichdan & Maryani (2024) on adoption in Indonesia and Lawter & Garnjost (2025)'s broad review, the current study provides localized empirical evidence linking GHRM directly to product quality.

Similarities: Quantitative methods and positive performance impact. **Difference:** Field-based Algerian context with service/product quality as the outcome.

This study fills a key gap with rare Algerian data and suggests future research in Arab settings.

2. Theoretical Framework of the Study:

2.1. Concept of the Term Green Human Resource Management (GHRM):

In 1996, Wehrmeyer integrated the concept of environmental management with human resource management in his book *Greening People: Human Resources and Environmental Management*, which effectively marked the emergence of the **Green Human Resource Management (GHRM)** concept. (Shhata, 2024, p. 46)

It consists of human resource management practices linked to environmental management philosophies and policies, working to increase employees' awareness of environmental responsibilities and protection. (Jabbar, 2015, p. 143)

Scholars have identified distinctive policies in the functional dimensions of human resource management—from recruitment, performance management and evaluation, training and development, to compensation and rewards—as decisive tools for aligning employees with the company's environmental strategy. (Khazeal, 2020, p. 282)

2.2. Green Human Resource Management Practices:

Based on the above and the consensus among numerous authors and scholars, we have divided Green Human Resource Management practices into the following categories:

- **Green Job Design:** In a green context, environmental tasks and responsibilities are integrated into the job description, such as compliance with environmental legislation, green reporting, and responsibilities related to environmental health and safety, in addition to incorporating environmental and social responsibilities into jobs to enhance environmental protection. (Hussein, 2022, p. 46)
- **Green Recruitment and Selection:** Green recruitment and selection is a strategic process aimed at attracting and selecting candidates who possess environmental awareness and green values, by promoting the organization's green brand and using environmental criteria in internal and external attraction processes. (FAPOHUNDA, 2022, p. 176) . The selection process focuses on preferring candidates who recognize the importance of greening jobs and apply green practices in their personal lives(UTOMO, 2022, p. 385).
- **Green Training and Development:** is a key practice in GHRM aimed at equipping employees with environmental knowledge and skills to enhance their pro-environmental behaviors, reduce unnecessary pollution and waste, and limit toxic gas emissions by encouraging flexible work schedules that minimize long commutes (Adekoya, 2023, pp. 256-257).This approach focuses on developing environmental

awareness, guiding employees toward green performance, and empowering them to implement sustainable initiatives. (Al-Rumaidi, 2020, p. 59)

- **Green Performance Management:** involves integrating environmental standards and responsibilities into employee performance evaluation, by establishing green indicators. (Dimitrov, 2021, p. 280). It aims to ensure that individual and collective performance achieves planned environmental objectives, with regular feedback and incorporating the greening element in performance interviews. (Diri, 2021, p. 17)
- **Green Compensation and Rewards:** form a system of financial and non-financial incentives aimed at attracting, retaining, and motivating employees to contribute to the organization environmental objectives. (Hussein, 2022, p. 53). This includes a mix of financial incentives and non-financial ones, in addition to rewards tied to acquiring green skills, career promotions for participation in environmental initiatives, and positive or negative reinforcements based on environmental performance. (Eko, 2022, p. 28) .
- **Green Health and Safety Management:** Many organizations have redefined roles as "Health, Safety, and Environment Manager" to include broader responsibilities, such as protecting biodiversity, supporting local communities, and preserving the work environment. Its main focus is creating an environmentally sensitive, resource-efficient, and socially responsible workplace. (Hussein, 2022, pp. 56-57)

2.3. Concept of Product Quality:

Kotler and Keller define Product Quality has been defined as an approach to studying the processes of product delivery to beneficiaries and continuously improving them to meet the needs and requirements of those beneficiaries. (Boumarhab, 2021, p. 4)

2.4. The Relationship Between Green Human Resource Management Practices and Improving product Quality:

Green Human Resource Management (GHRM) practices exhibit a direct positive relationship with improving Product Quality by integrating environmental sustainability into HR functions, which in turn reflects on customer satisfaction and loyalty. (Hussein, 2022, p. 78) Green recruitment and selection attract and select environmentally committed and qualified individuals, thereby enhancing efficiency and reliability in product delivery . green compensation and rewards motivate employees toward outstanding performance linked to customer expectations (Camilleri, 2022, p. 278). Finally, green health and safety management ensures a safe, healthy, and eco-friendly work environment, reducing accidents, increasing employee efficiency, and improving customers' perception of quality and care. Thus, GHRM practices serve as a strategic tool for enhancing service quality by elevating the efficiency and commitment of human resources to sustainability. (Hussein, 2022, p. 81)

3. RESULTS AND DISCUSSION:

3.1. Methodology and Tools Used in the Study:

3.1.1. Study Population and Sample: The study population included all employees at SARL Top Gloves Latex Industries in Ain Temouchent, estimated at approximately 600 workers. A random sample of 170 employees was selected from this population.

3.1.2. Tools Used in the Study Data were collected using a structured questionnaire developed from the theoretical framework, divided into three main sections:

- **Part One:** Demographic and personal information of respondents.

- **Part Two:** Main study variables, consisting of:
 - The first axis examines green human resource management practices, encompassing six dimensions—namely, green job design, green recruitment and selection, green training and development, green performance management, green compensation and rewards, and green health and safety management—and consists of 30 statements.
 - The second axis concentrates on Product Quality and comprises 25 statements.
- Data analysis was performed using SPSS software and a five-point Likert scale.

Table 2. The five-point Likert scale used in the research

Numeric Value	Response Option	Description
1	Strongly Disagree	Strongly oppose the statement
2	Disagree	Disagree with the statement
3	Neutral	Neither agree nor disagree
4	Agree	Agree with the statement
5	Strongly Agree	Strongly support the statement

The Source: Prepared by the researchers

To determine the level of agreement of the research sample with each statement of the questionnaire, the range of the weighted arithmetic mean was determined according to the following scale:

Table 3. Weighted arithmetic means according to the five-point Likert scale

Weighted Mean Value	Interpretation
1.00 - 1.79	Strongly Disagree
1.80 - 2.59	Disagree
2.60 - 3.39	Neutral
3.40 - 4.19	Agree
4.20 - 5.00	Strongly Agree

The Source: Prepared by the researchers

3.1.3. Reliability of the Study Instrument:

This point verifies the reliability of the measurement tool used, namely the questionnaire, where reliability here refers to the degree of stability of the study instrument—meaning its consistency and lack of self-contradiction. This is measured by **Cronbach's alpha coefficient** using SPSS version 26 software, yielding the following results:

Table 4. Cronbach's Alpha Reliability Coefficient for the Study Instrument

Statement	Number of Items	Cronbach's Alpha Value
Dimension: Green HRM Practices	30	0.979
Dimension: Product Quality	25	0.967
All Questionnaire Items	55	0.986

Source: Prepared by the researchers based on SPSS v26 outputs.

From the table, Cronbach's alpha is 0.986 overall, a value well above 0.6 (and even exceeding common thresholds of 0.7–0.9 for excellent reliability in social science research). This indicates very high reliability for the measurement instrument in the context of this study's sample, making it suitable for statistical analysis and highly dependable. It means that, under the same conditions, approximately 98.6% of respondents would provide the same answers upon re-testing, reflecting strong stability and lending significant credibility to the results that can be derived.

3.2. Analysis and Discussion of Study Results

3.2.1. Presentation and Analysis of the Study Sample Characteristics:

The characteristics of the surveyed individuals were expressed and analyzed using frequency tables, percentages, and graphical representations.

Table 5. Distribution of Study Sample Individuals by Personal Variables

Variable	Category	Frequency	Percentage (%)
Gender	Male	58	34.1%
	Female	112	65.9%
	Total	170	100%
Age Group	Less than 30 years	8	4.7%
	31–40 years	58	34.1%
	41–50 years	79	46.5%
	More than 50 years	25	14.7%
	Total	170	100%
Educational Qualification	Secondary or below	4	2.4%
	Vocational training	21	12.4%
	University degree	116	68.2%
	Postgraduate studies	29	17.1%
	Total	170	100%
Years of Experience	Less than 5 years	4	2.4%
	5–10 years	37	21.8%
	11–20 years	83	48.8%
	More than 20 years	46	27.1%
	Total	170	100%

Source: Prepared by the researchers based on SPSS v26 outputs.

The sample consists of 170 respondents, with a clear predominance of females at 65.9% (112) compared to 34.1% males (58). This reflects the nature of work in Top Gloves company, particularly in production lines.

The age distribution is concentrated in the middle-aged groups, with 46.5% aged 41–50 years and 34.1% aged 31–40 years, indicating maturity and professional experience among respondents.

Education level is relatively high, with 85.3% holding university degrees or higher (68.2% bachelor's, 17.1% postgraduate).

Work experience is substantial, as 76% of respondents have more than 10 years of experience (48.8% with 11–20 years, 27.1% with over 20 years).

The sample is strong and mature in terms of gender representation (female majority), age, education, and professional experience. This enhances the reliability and credibility of the data. However, younger employees and new hires are underrepresented.

3.2.2. Presentation and Analysis of Study Variable Results:

First: Measurement of the Independent Variable – Green Human Resource Management Practices:

To measure the level of the independent variable's dimensions in the studied organization, the following discusses the arithmetic means and standard deviations for the first axis's dimensions.

Dimension One: Green Job Design

Table 6. Arithmetic Means and Standard Deviations for the First Axis

Statement	Standard Deviation	Arithmetic Mean
Our organization includes a number of environmental protection responsibilities in the job description.	1.123	3.20
The management includes environmental and social needs in the job description.	1.060	3.02
Our organization includes environmental qualifications as a distinguishing element in job specifications.	1.005	3.12
Our organization designs and creates innovative jobs that emphasize environmental protection aspects.	0.836	3.41
Green administrative jobs that are environmentally friendly are described to employees.	1.070	3.17
First Dimension: Green Job Design	0.879	3.18
The organization uses specific criteria for candidates for vacant positions.	0.988	3.22
The organization relies on environmental awareness criteria in recruiting human resources.	0.943	3.76
The organization continuously announces its human resource needs through its electronic websites.	1.206	3.46
An electronic system is followed when applying for jobs (such as CV, interview, etc.).	0.650	3.68
The organization selects candidates who possess competence and participation in environmental initiatives.	0.693	3.66
Second Dimension: Green Recruitment and Selection	0.745	3.55
The organization uses illustrative techniques in the training process related to environmental management.	0.781	3.93
The organization relies in the training process on safety aspects in environmental management.	1.194	3.88
Environmental awareness is disseminated to reduce environmental errors and deviations.	0.870	3.22
The organization uses environmental protection elements as core topics in its training programs.	0.859	3.51
Employees are trained using information technology and the internet to reduce paper usage.	0.968	3.63
Third Dimension: Green Training and Development	0.754	3.63
The organization sets standards and indicators for environmentally friendly green performance.	0.672	3.73
The organization uses environmental standards and objectives to measure and evaluate employee performance at all levels.	0.907	3.32
The organization adopts suggestions from its human resources that support green performance.	0.978	3.51
The organization has electronic platforms for evaluating the performance of its human resources.	1.083	3.68
The organization implements disciplinary procedures against employees who do not comply with environmental preservation rules.	0.829	3.37
Fourth Dimension: Green Performance Management	0.738	3.52
The organization's management recognizes employees' contributions to environmental protection.	0.969	3.24

The organization uses rewards to encourage environmental contributions, such as paid leave.	1.100	3.12
Human resources in the organization receive praise and commendation more than those without environmental interests.	1.054	3.20
The organization grants a special reward to encourage individuals to acquire green skills.	1.209	3.20
Green proposals submitted by working individuals are rewarded.	0.981	3.71
Fifth Dimension: Green Compensation and Rewards	0.938	3.29
The organization cares about the work environment to ensure the health and safety of its employees.	1.107	3.22
Guidelines and instructions on the environment are available in the organization to ensure employee health and safety.	1.075	3.51
The management continuously reviews the organization's environment to assess potential environmental risks for continuous improvement.	1.085	3.15
The organization adopts improvements in physical working conditions to reduce work accidents and injuries.	1.188	3.20
The management allocates special smoking rooms to maintain healthy ventilation.	1.100	3.12
Sixth Dimension: Green Health and Safety Management	1.020	3.23
Overall Axis: Green Human Resource Management Practices	0.734	3.42

Source: Prepared by the researchers based on SPSS v26 outputs.

GHRM Practices at Top Gloves:

- **Green Job Design** (Mean: 3.18, Medium): Moderate implementation. Highest in innovative green jobs (3.41), lowest in including environmental needs in job descriptions (3.02). Needs stronger integration of environmental aspects.
- **Green Recruitment & Selection** (Mean: 3.56, High): Strongest dimension. Focuses on environmental awareness in hiring and electronic systems.
- **Green Training & Development** (Mean: 3.63, High): High level, especially in using illustrative environmental training techniques. Requires more emphasis on reducing environmental errors.
- **Green Performance Management** (Mean: 3.52, High): Good performance in setting green standards and adopting suggestions, but disciplinary procedures need strengthening.
- **Green Compensation & Rewards** (Mean: 3.29, Medium): Moderate. Rewards green proposals well (3.71), but needs broader financial and non-financial incentives.
- **Green Health & Safety Management** (Mean: 3.24, Medium): Average level. Strong in safety guidelines, but requires better risk reduction and preventive measures.

GHRM practices are implemented at a **medium to high level** (Overall Mean $\approx 3.42/5$). The company shows good performance in recruitment, training, and performance management, while green job design, rewards, and health & safety need further improvement for fuller sustainability integration.

Second: Measurement of the Dependent Variable – Service Quality: To ensure the results serve the research purpose and intended objective, they were analyzed according to importance and the majority orientation of the sample members, as reflected by the arithmetic means, as follows:

Table 7. Arithmetic Means and Standard Deviations for the Second Axis – Product Quality

Statement	Arithmetic Mean	Standard Deviation
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The company has the necessary equipment and tools to produce medical gloves with high quality.	3.66	0.911
The company ensures the provision of resources and modern technologies to meet current and future needs.	3.41	1.024
The company's production facilities feature a decent and clean interior design, suitable for a healthy and professional work environment.	3.57	1.141
The company provides good supporting facilities (rest areas, changing rooms, clean restrooms...) for employees and visitors.	3.24	0.994
Current technological systems in the company adequately support green human resource management practices.	3.15	1.099
There is a clear impact of green practices on improving the company's efficiency in aspects provided to customers.	3.39	0.945
The company deals with its customers and partners with high professionalism and expertise.	3.56	1.163
Company employees possess good knowledge and sufficient familiarity with production and administrative work procedures and standards.	3.24	1.113
The company strives to produce and deliver gloves correctly and in accordance with specifications from the first time.	3.34	0.855
The company commits to delivering orders and products on the agreed dates with customers.	3.44	0.743
Company employees show complete readiness to cooperate with customers and respond to their inquiries.	3.46	0.778
Company employees consistently exhibit polite and professional behavior with customers and suppliers.	3.51	0.898
Sales and technical support employees have sufficient knowledge to answer customer questions and inquiries.	3.12	1.077
The company delivers products on the specified and agreed dates.	3.47	1.141
The company responds quickly and effectively to customer inquiries and complaints.	3.20	0.980
Information provided to customers (product specifications, delivery dates...) has become more accurate and transparent.	3.00	0.975
Customers trust the company's employees and feel secure when dealing with it.	3.76	0.624
Customers feel confident and secure in the quality of products and commercial transactions with the company.	3.63	0.799
The company produces and delivers gloves with high precision and without noticeable errors.	3.68	0.850
The company accurately informs customers of expected production and delivery dates.	3.44	0.673
The company pays special attention to solving customer problems and addressing complaints quickly.	3.61	0.703
Company employees' treatment of customers is characterized by politeness, professionalism, and good conduct.	3.78	0.525

The company cares about treating customers with kindness, respect, and consideration of their commercial and logistical circumstances.	3.78	0.725
The company provides the necessary support and assistance to customers with all friendliness, professionalism, and courtesy.	3.80	0.901
The company produces and delivers products during official working hours and on specified dates without unjustified delay.	4.00	0.866
Overall Axis: Product Quality	3.44	0.731

Source: Prepared by the researchers based on SPSS V26 results.

The overall service quality at Top Gloves Latex Industries reached a high level with an arithmetic mean of 3.44 out of 5 and a standard deviation of 0.731. Respondents showed a clearly positive evaluation of the company's products and services, particularly praising its strong commitment to deadlines and precision in production and delivery (highest mean of 4.00), along with professional and friendly customer treatment, support, and high levels of trust and security (means ranging between 3.76 and 3.80). However, some areas require improvement, including the accuracy and transparency of information provided to customers (3.00), speed of response to inquiries and complaints (3.20), knowledge of sales and technical support staff (3.12), and technological support for green human resource management practices (3.15). In conclusion, while the company demonstrates excellence in reliability, assurance, and empathy, enhancing response speed, information transparency, and integration of green technologies is recommended to raise overall service quality and strengthen its competitive position in local and international markets.

3.3.Hypothesis Testing and Discussion of Results

3.3.1. Testing the Validity of the First Hypothesis: The first hypothesis of the study states: "There is a positive correlational relationship between Green Human Resource Management (GHRM) practices and Product Quality at Top Gloves Latex Industries in Ain Temouchent."

To test this hypothesis at a statistical significance level of 0.05 (i.e., 5%), it was statistically formulated in its null and alternative forms as follows:

- **Null Hypothesis (H₀):** There is no statistically significant positive correlational relationship between Green Human Resource Management practices and Product Quality at Top Gloves Latex Industries in Ain Temouchent at a significance level of 5%.
- **Alternative Hypothesis (H₁):** There is a statistically significant positive correlational relationship between Green Human Resource Management practices and Product Quality at Top Gloves Latex Industries in Ain Temouchent at a significance level of 5%.

To verify the existence of this correlational relationship and test the hypothesis, Pearson's linear correlation coefficient was calculated between the study's two variables (GHRM practices and Product Quality). The obtained results are presented in the following table:

Table 8. Results of Pearson Correlation Coefficient between Green Human Resource

Independent Variable (GHRM Dimensions)	Pearson Correlation	Sig. (2-tailed)	N
Green Job Design	0.782**	0.000	170
Green Recruitment and Selection	0.927**	0.000	170
Green Training and Development	0.624**	0.000	170
Green Performance Management	0.774**	0.000	170
Green Compensation and Rewards	0.700**	0.000	170

Green Health and Safety Management	0.953**	0.000	170
Overall Independent Variable: Green HRM Practices	0.827	0.000	170

Source: Prepared by the researchers based on SPSS V26 results.

The study revealed a very strong positive correlation between Green Human Resource Management (GHRM) practices and Product Quality at Top Gloves Latex Industries, with an overall correlation coefficient of 0.827 (very high, $p=0.000$). This confirms that greater adoption of GHRM practices directly leads to higher service and product quality. Among the dimensions, Green Health and Safety Management recorded the strongest correlation (0.953, very high), indicating that providing a safe and healthy work environment, reducing environmental risks, and improving ventilation significantly boosts employee productivity and service quality. This was followed by Green Recruitment and Selection (0.927, very high), which highlights the importance of hiring environmentally aware and competent employees. The other dimensions also showed strong positive relationships: Green Job Design (0.782), Green Performance Management (0.774), Green Compensation and Rewards (0.700), and Green Training and Development (0.624). Overall, the results demonstrate that GHRM practices — particularly green health and safety and green recruitment — play a major and direct role in enhancing product quality and the company's overall performance.

3.3.2. Testing the Validity of the Second Hypothesis Which states: "There is an impact of Green Human Resource Management practices, with their dimensions, on Product Quality at Top Gloves Latex Industries in Ain Temouchent."

- **Null Hypothesis (H_0):** There is no statistically significant positive impact of Green Human Resource Management practices on Product Quality in the company at a significance level of 5%.
- **Alternative Hypothesis (H_1):** There is a statistically significant positive impact of Green Human Resource Management practices on Product Quality in the company at a significance level of 5%.

1. **Simple Linear Regression Analysis to Examine the Impact of Green Human Resource Management Practices on Service Quality at Top Gloves Latex Industries in Aïn Témouchent §**
Linear regression analysis was used to test the correlational relationship using the least squares method (Entry) at a significance level of 0.05, where the independent variable is Green Human Resource Management and the dependent variable is Product Quality. The following table shows the type of correlational relationship between the two variables:

Table 9. Linear Correlation between the Independent Variable and the Dependent Variable

Model	R (Correlation Coefficient)	R ² (Coefficient of Determination)	Adjusted R ²
1	0.827a	0.768	0.762

a. Predictors: (Constant), Green Practices

Source: Prepared by the researchers based on SPSS V26 results.

- The multiple correlation coefficient $R = 0.827$ indicates a very strong positive linear relationship between Green Human Resource Management practices and Product Quality.
- The coefficient of determination $R^2 = 0.768$ means that Green Human Resource Management practices explain 76.8% of the variation in Product Quality.
- The adjusted $R^2 = 0.762$ confirms the stability and reliability of the model.
- The standard error of the estimate = 0.357 is relatively low, indicating good prediction accuracy.

ANOVA (Analysis of Variance) for the Regression Model The following table presents the results of the variance analysis to assess the overall fit of the regression line to the data.

Table 10. ANOVA for the Regression Line

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.421	1	16.421	128.821	0.000b
	Residual	4.971	168	0.127		
	Total	21.393	169			

a. Dependent Variable: Product Quality b. Predictors: (Constant), Green Practices

Source: Prepared by the researchers based on SPSS V26 results.

The table shows the results of the variance analysis for testing the overall fit of the regression model:

- Regression sum of squares = 16.421, degrees of freedom = 1
- Mean square = 16.421
- F-value = 128.821
- Significance level Sig. = 0.000 (much less than 0.05)

The very high F-value (128.821) and significance level of 0.000 indicate that the regression model is highly statistically significant. There is a statistically significant effect of the independent variable (Green Human Resource Management practices) on the dependent variable (Product Quality). In other words: the regression line fits the data very well, the model has strong explanatory power overall, and it can be reliably used for prediction and inference.

Coefficients of the Regression Line: The following table presents the regression coefficient values for the final model relating Green Human Resource Management practices to Product Quality:

Table 11. Regression Coefficients

Coefficientsa		B (Unstandardized Coefficient)	Std. Error	Beta (Standardized Coefficient)	t-value	Sig.
1	(Constant)	0.458	0.269		1.700	0.097
	Green Practices	0.872	0.077	0.827	11.350	0.000

a. Dependent Variable: Product Quality

Source: Prepared by the researchers based on SPSS V26 results.

- The regression model is highly significant and fit (F = 128.821, Sig. = 0.000).
- Green Human Resource Management practices exert a strong, positive, and statistically significant impact on service quality (B = 0.872, Beta = 0.827, Sig. = 0.000).
- It can be concluded that improving these practices will directly lead to an increase in product quality levels at Top Gloves Latex Industries.

These results definitively confirm the validity of the study's second main hypothesis and underscore the importance of adopting GHRM as a strategic factor for improving product quality.

Thus, there exists a statistically significant positive impact relationship between Green Human Resource Management practices and product quality at Top Gloves Latex Industries in Ain Temouchent at the 0.05 significance level.

The regression equation becomes:

$$\text{Product Quality} = 0.458 + 0.872 \times (\text{Green Practices})$$

3.3.3. Multiple Regression Analysis:

To formulate the final regression equation, we must re-analyze the statistical data using enter multiple regression analysis to examine the impact of each dimension of Green Human Resource Management (GHRM) practices on product quality at Top Gloves Latex Industries in Ain Temouchent. The objective of this analysis is to determine the effect and relative importance of each dimension of the independent variable on the dependent variable.

For this purpose, six sub-hypotheses were formulated to test the impact:

- **Sub-hypothesis 1:** There is a statistically significant impact of **green job design** on product quality at Top Gloves Latex Industries in Ain Temouchent.
- **Sub-hypothesis 2:** There is a statistically significant impact of **green recruitment and selection** on product quality at Top Gloves Latex Industries in Ain Temouchent.
- **Sub-hypothesis 3:** There is a statistically significant impact of **green training and development** on product quality at Top Gloves Latex Industries in Ain Temouchent.
- **Sub-hypothesis 4:** There is a statistically significant impact of **green performance management** on product quality at Top Gloves Latex Industries in Ain Temouchent.
- **Sub-hypothesis 5:** There is a statistically significant impact of **green compensation and rewards** on product quality at Top Gloves Latex Industries in Ain Temouchent.
- **Sub-hypothesis 6:** There is a statistically significant impact of **green health and safety management** on product quality at Top Gloves Latex Industries in Ain Temouchent.

Study Model:

**Table 12. Multiple Regression Model
Variables Entered/Removed^a**

Model	Variables Entered	Variables Removed	Method
1	Green Health and Safety Management, Green Compensation and Rewards, Green Job Design, Green Training and Development, Green Recruitment and Selection, Green Performance Management ^b		Enter

a. Dependent Variable: product quality b. All requested variables entered.

Source: Prepared by the researchers based on SPSS v26 outputs.

It is observed from the table that the study model did not exclude any independent variable.

Multiple Correlation Coefficient

The following table shows the correlation coefficients for the independent variables in the model and the dependent variable.

Table 13. Multiple Correlation Coefficients for the Independent Variables and Dependent Variable in the Study Model

Model	R	R Square	Adjusted R Square
1	0.963a	0.928	0.915

a. Predictors: (Constant), Green Health and Safety Management, Green Compensation and Rewards, Green Job Design, Green Training and Development, Green Recruitment and Selection, Green Performance Management

b. Dependent Variable: product quality

Source: Prepared by the researchers based on SPSS v26 outputs.

- $R = 0.963$: Very strong positive linear relationship between the six dimensions combined and service quality.
- $R^2 = 0.928$: The six dimensions together explain 92.8% of the variation in service quality (extremely high explanatory power).
- Adjusted $R^2 = 0.915$: The model is stable and reliable after adjusting for degrees of freedom.
- Std. Error of the Estimate = 0.213 : High prediction accuracy (very low error).

We conclude that the model is very strong and possesses excellent explanatory power.

ANOVA for Multiple Regression (Enter Method) The following table presents the analysis of variance for the multiple regression line to assess the overall fit of the regression line to the data.

Table 14. ANOVA for Multiple Regression (Enter Method)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.848	6	3.308	72.837	0.000b
	Residual	1.544	163	0.045		
	Total	21.393	169			

a. Dependent Variable: product quality b. Predictors: (Constant), Green Health and Safety Management, Green Compensation and Rewards, Green Job Design, Green Training and Development, Green Recruitment and Selection, Green Performance Management

Source: Prepared by the researchers based on SPSS v26 outputs.

- $F = 72.837$
- $\text{Sig.} = 0.000$

The overall model is highly statistically significant ($p < 0.001$). There is a significant effect of the six dimensions combined on service quality, and the model fits the data very well.

Multiple Regression Coefficients (Enter Method) The following table shows the regression coefficient values for the final model using the Enter method:

Table 15. Multiple Regression Coefficients (Enter Method)

Model / Variable	B (Unstandardized)	Std. Error	Beta (Standardized)	t- value	Sig.	Tolerance
(Constant)	0.783	0.228		3.438	0.002	
Green Job Design	0.010	0.070	0.010	0.142	0.888	0.296
Green Recruitment and Selection	0.482	0.180	0.180	2.684	0.008	0.264
Green Training and Development	-0.159	0.138	-0.164	-1.148	0.253	0.385
Green performance management	0.079	0.221	0.080	0.359	0.720	0.290
Green Compensation and Rewards	-0.064	0.089	-0.082	-0.721	0.472	0.318
Green Health and Safety Management	0.441	0.099	0.615	4.447	0.000	0.334

a. Dependent Variable: product quality

Source: Prepared by the researchers based on SPSS v26 outputs.

All VIF values are less than 4 : No multicollinearity problem.

From the table, we observe that the six dimensions together explain 92.8% of service quality, indicating a very strong model.

Based on the multiple regression coefficients (Table of Coefficients), we can now directly link the results to the six sub-hypotheses of the study, determining whether each is accepted or rejected at the 0.05 significance level:

1. **Sub-hypothesis 1:** There is a statistically significant impact of green job design on product quality. Result: $B = 0.010$, $\text{Sig.} = 0.888 (> 0.05)$ → Hypothesis rejected. No significant independent impact of green job design on service quality in the presence of other dimensions.
2. **Sub-hypothesis 2:** There is a statistically significant impact of green recruitment and selection on product quality. Result: $B = 0.482$, $\text{Beta} = 0.180$, $\text{Sig.} = 0.008 (< 0.01)$ → Hypothesis accepted. There is a significant positive impact of green recruitment and selection on service quality.
3. **Sub-hypothesis 3:** There is a statistically significant impact of green training and development on product quality. Result: $B = -0.159$, $\text{Sig.} = 0.253 (> 0.05)$ → Hypothesis rejected. No significant independent impact (and the direction is negative but not significant).
4. **Sub-hypothesis 4:** There is a statistically significant impact of green performance management on product quality. Result: $B = 0.079$, $\text{Sig.} = 0.720 (> 0.05)$ → Hypothesis rejected. No significant independent impact of green performance management.
5. **Sub-hypothesis 5:** There is a statistically significant impact of green compensation and rewards on product quality. Result: $B = -0.064$, $\text{Sig.} = 0.472 (> 0.05)$ → Hypothesis rejected. No significant independent impact (negative direction but not significant).
6. **Sub-hypothesis 6:** There is a statistically significant impact of green health and safety management on product quality. Result: $B = 0.441$, $\text{Beta} = 0.615$, $\text{Sig.} = 0.000 (< 0.001)$ → Hypothesis strongly accepted. There is a very strong and highly significant positive impact of green health and safety management on product quality, the strongest among all dimensions.

The multiple regression equation becomes:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$$

Where:

- Y: Product Quality (dependent variable)
- a: Constant = 0.783
- b_1 to b_6 : Regression coefficients for the independent variables
- X_1 to X_6 : Independent variables (Green Job Design, Green Recruitment and Selection, Green Training and Development, Green Performance Management, Green Compensation and Rewards, Green Health and Safety Management)

Since only two dimensions showed significant independent effects, the effective multiple regression equation is:

Service Quality = $0.482 \times \text{Green Recruitment and Selection} + 0.441 \times \text{Green Health and Safety Management}$

It is noteworthy that four dimensions of GHRM practices (green job design, green training and development, green performance management, and green compensation and rewards) did not show a significant independent

effect in the multiple model, despite strong bivariate correlations in the earlier analysis. This result can be explained by several possible factors:

First: **Multicollinearity** among the green practices, where these dimensions share overlapping implementation aspects (e.g., training supports performance management, and rewards are linked to performance evaluation), which weakens the independent effect of each dimension when entered together in the model.

Second: **Weak or immature implementation** of some practices in the company, as indicated by their medium arithmetic means (e.g., compensation and rewards = 3.29, job design = 3.18), meaning they are not applied to a sufficient degree to show a strong separate effect.

Third: **Industrial context**, where certain practices (health/safety and recruitment) are more visible and have direct impact on production and product quality, while others (rewards and training) have less obvious direct effects on external customers.

These results do not mean that these dimensions are unimportant; rather, they indicate that their influence may be indirect or require greater practical reinforcement within the company.

4. Conclusion

In light of the global shift toward environmental sustainability and corporate social responsibility, Green Human Resource Management (GHRM) has emerged as one of the key strategic tools for achieving a balance between economic performance and environmental protection. This study aimed to explore the relationship between GHRM practices and product quality at Top Gloves Latex Industries in Aïn Témouchent, serving as a representative case of private industrial organizations in the Algerian context. The private industrial sector in Algeria faces significant challenges related to competitiveness, compliance with international environmental standards, and improving product quality for export purposes. The findings of this study provide a positive indicator that adopting GHRM practices can serve as a genuine lever for enhancing competitive performance, particularly in sensitive industries such as medical glove manufacturing, which demand exceptionally high standards of quality and hygiene.

The results demonstrate that prioritizing green health and safety management and green recruitment and selection can create a tangible difference in service quality without requiring radical changes across all dimensions simultaneously, an approach well-suited to the financial and organizational capacities of Algerian companies during their transitional phase toward sustainability.

From a practical perspective, the study highlights that strengthening these practices ,especially in the areas of health and safety and recruitment ,can lead to a qualitative leap in company performance, whether in terms of productivity, compliance with international standards, or the ability to export to markets that require sustainability certifications.

From a theoretical standpoint, the study contributes to filling part of the research gap in the Algerian context, where studies on GHRM within the private industrial sector remain limited compared to public or service sectors.

Key Findings of the Study:

- The statistical results strongly supported both hypotheses. The Pearson correlation coefficient between GHRM practices and Product Quality reached **0.827**, which is very high. From my perspective as a researcher, this strong relationship confirms what I have observed in Algerian organizations: when

management pays attention to the human element with an environmental dimension, the quality of output improves noticeably.

- **Green Health and Safety Management** recorded the highest correlation (**0.953**) and the strongest impact in the multiple regression (**Beta = 0.615**). This finding carries special significance in the Algerian context. Algerian workers, especially in industrial environments, are highly sensitive to issues of health and workplace safety. This concern is rooted in both personal and collective memory — many families still remember the harsh working conditions of previous decades. Therefore, any genuine improvement in this area is quickly felt and reflected in employee morale and product quality.
- **Green Recruitment and Selection** came in second (**Beta = 0.180**). This also makes sense in our society. In Algeria, getting the "right person" in the right position has always been a critical issue due to high unemployment and strong competition for stable jobs. When the company selects employees who are environmentally aware and professionally qualified, it gains committed people who are more willing to go the extra mile — something clearly reflected in product quality.
- Interestingly, the other four dimensions (Green Job Design, Training, Performance Management, and Rewards) lost their independent statistical significance in the multiple regression, despite strong bivariate correlations. In my opinion, this does not mean these practices are unimportant. Rather, it reveals the **overlapping and interconnected nature** of green practices in a context like ours. In Algerian companies, these dimensions are not yet mature enough to show separate effects; they influence quality indirectly through health & safety and recruitment.
- This result honestly reflects the current stage of Algerian private industry: we are moving forward, but still in a transitional and somewhat fragmented manner. Top Gloves Latex Industries represents a good example of this transition — better than many others, yet still far from the comprehensive green model we aspire to

Recommendations of the Study:

Based on the findings, the following recommendations are proposed:

First, companies must prioritize **Green Health and Safety Management**, the most influential dimension on product quality. Improving ventilation, reducing hazards, and providing proper equipment are essential investments that enhance employee morale and product quality in the Algerian context.

Second, strengthen **Green Recruitment and Selection** by including environmental awareness as a key criterion in hiring. This is particularly important in Algeria given high youth unemployment.

Third, address the weaker areas — especially **Green Job Design** and **Green Compensation and Rewards** — by moving beyond theoretical approaches and linking rewards to environmental performance.

Fourth, transform **Green Training and Development** into a continuous practical program focused on solving real workplace environmental issues.

At the organizational level, Top Gloves and similar companies should develop a phased strategic plan for comprehensive Green HRM integration, adapted to Algerian realities.

At the national level, government bodies and chambers of commerce should provide financial and technical support (soft loans, tax incentives, and ISO 14001 assistance) to private companies.

Finally, more field research is needed in Algerian universities to build locally relevant knowledge on Green HRM.

Adopting Green Human Resource Management is no longer a luxury or a passing trend — it has become a necessity for Algerian companies that aspire to compete locally and export internationally while preserving the environment for future generations.

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