

Green Human Resource Management Practices and Teaching Faculty Performance: A Study of Arts and Science Colleges in Chennai

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Abstract

In the 21st century, population growth and changing environmental conditions have led to a range of environmental challenges. Higher education institutions play a significant role in the overall development of the nation. If these institutions begin implementing environment-focused HRM practices, including green recruitment and selection, green training and development, green employee involvement, green rewards and compensation, and green employee engagement, these practices can influence faculty pro-environmental behavior. The studies aim to identify the colleges' current GHRM practices, assess the scope and effects of these practices at an arts and science college in Chennai, and analyze the relationship between various Green Human Resource Management practices and the job performance of teaching faculty in selected arts and science colleges in Chennai. The research is based on primary and secondary data sources. Primary data were collected through a questionnaire issued to arts and science colleges in Chennai. Secondary data were collected from websites, books, and articles. The study adopted a descriptive research method and simple random sampling techniques. The sample comprised 143 teaching faculty members in five arts and science colleges in Chennai, and the collected data were analyzed using statistical tools such as Percentage Analysis, Chi-square, One-way ANOVA, and Correlation. Hence, better Green Human Resource Management practices are essential for every institution, as they contribute to job involvement, Job attachment, and Job commitment.

Keywords: Green Human Resource Management Practices, Green Recruitment and Selection, Green Training and Development, Green Employee Involvement, Green Rewards and Compensation, and Green Employee Engagement.

Introduction

Today, Educational Institutions need Green Human Resource Management for many reasons. First, to protect environmental aspects such as global warming, climate change, and the energy crisis, so that the work is meaningful and the workplace is safe and healthy both inside and outside the institution. Second, GHRM directs, educates, and motivates faculty, both financially and non-financially, to carry out their activities in an environmentally sustainable manner. Third, it aims to improve the institution's environmental protection through specific Human Resource functions, such as Green Recruiting, Green Training, Green Employee Involvement, Green Employee Empowerment, and a Green Environmental Management System.

Human resource management can help improve students' outcomes. This is achieved through the active participation and motivation of teachers. In addition, the goal of staffing is to make teachers more effective; effective teachers enable students to improve.

The environment is facing many consequences due to pollution, such as bio-waste and e-waste, which are damaging the environment badly, destroying natural resources, hurting human life and health, and society as a whole. Green Human Resource Management practices will reduce negative impact and improve the organization's sustainable environmental performance. It also motivates employees to take the initiative in implementing Green Recruitment, Green Training, Green Reward and Compensation, and developing and advancing the firm's human capital.

Many educational institutions have introduced environmental protection measures to encourage students and faculty to be responsible for protecting the environment. Despite these efforts, it remains challenging to strengthen the implementation of Green Human Resource Management practices. This research paper will help define environmental standard practices applied in colleges and universities. It also determines the Green Human Resource Management practices in research institutes and scientific organizations, with various organizations responsible for environmental protection.

Literature Review

Ms. Lakshmi Varma and Prof. Dr. V. Balachandran (2021) conducted a study on "Green Human Resource Management Practices - Implementation in Universities and Higher Educational Institutions". The objective of their study was to examine the various basic GHRM practices that are implemented in certain Universities / Higher Education Institutes, and the importance of implementing them. The required data for the study were collected from various books, research papers, articles, university records, and the Internet. The study concludes that if a proper Green Human Resource Management system can be implemented, it will create awareness among the management and staff to adhere to waste management, reduce unwanted resources, and maintain the cleanliness of the campus. It will ultimately lead to the satisfaction of various stakeholders, including employees, and motivate them to improve their productivity. Ms. Lakshmi Varma and Prof. Dr. V. Balachandran (2021) conducted a study on "Green Human Resource Management Practices - Implementation in Universities and Higher Educational Institutions". The objective of their study was to examine the various basic GHRM practices that are implemented in certain Universities / Higher Education Institutes, and the importance of implementing them. The required data for the study were collected from various books, research papers, articles, university records, and the Internet. The study concludes that if a proper Green Human Resource Management system can be implemented, it will create awareness among the management and staff to adhere to waste management, reduce unwanted resources, and maintain the cleanliness of the campus. It will ultimately lead to the satisfaction of various stakeholders, including employees, and motivate them to improve their productivity.

Susanto (2023) examined the relationship between GHRM practices, job satisfaction, and green work engagement in the manufacturing sector. The study used PLS-SEM to analyze data collected from 340 employees. The findings confirmed that implementing GHRM practices enhances both job satisfaction and green work engagement. The study highlighted the dual contribution of GHRM practices: first, GHRM contributes to employee welfare and positive work attitudes; second, it encourages employees to participate in environmentally responsible activities. The findings indicate that GHRM should not be considered solely as an environmental management strategy, as it can also contribute to employee satisfaction and engagement. This perspective is particularly important for the present study because teaching faculty members' job involvement, job attachment, job commitment, and job performance may be influenced by the environmental and organizational practices followed by their institutions.

Oyetunde et al. (2023) examined green management practices at Veritas University in Nigeria. The study surveyed 199 employees and investigated the influence of green management practices on organizational productivity. The findings indicated that green waste management significantly enhances organizational productivity, whereas green technology had a relatively limited effect. The study recommended implementing environmentally friendly policies to minimize waste and improve productivity in educational institutions. This study is particularly relevant to the present research because it focuses on the higher education sector. It demonstrates that green management practices can contribute to organizational effectiveness in universities and other educational institutions. The findings also indicate

that environmental sustainability initiatives should be linked with organizational policies and employee participation.

Ms. Lakshmi Varma and Prof. Dr. V. Balachandran (2021) conducted a study on “Green Human Resource Management Practices - Implementation in Universities and Higher Educational Institutions”. The objective of their study was to examine the various basic GHRM practices that are implemented in certain Universities / Higher Education Institutes, and the importance of implementing them. The required data for the study were collected from various books, research papers, articles, university records, and the Internet. The study concludes that if a proper Green Human Resource Management system can be implemented, it will create awareness among the management and staff to adhere to waste management, reduce unwanted resources, and maintain the cleanliness of the campus. It will ultimately lead to the satisfaction of various stakeholders, including employees, and motivate them to improve their productivity. Ms. Lakshmi Varma and Prof. Dr. V. Balachandran (2021) conducted a study on “Green Human Resource Management Practices - Implementation in Universities and Higher Educational Institutions”. The objective of their study was to examine the various basic GHRM practices that are implemented in certain Universities / Higher Education Institutes, and the importance of implementing them. The required data for the study were collected from various books, research papers, articles, university records, and the Internet. The study concludes that if a proper Green Human Resource Management system can be implemented, it will create awareness among the management and staff to adhere to waste management, reduce unwanted resources, and maintain the cleanliness of the campus. It will ultimately lead to the satisfaction of various stakeholders, including employees, and motivate them to improve their productivity.

Ms Lakshmi Varma and Prof. Dr. V. Balachandran (2021) conducted a study titled “Green Human Resource Management Practices- Implementation in Universities and Higher Educational Institutions”. The objective of their study was to examine the core GHRM practices implemented in certain universities and higher education institutions and the importance of their implementation. The required data for their study were collected from various books, research papers, articles, university records, and the Internet. The study concludes that implementing an effective Green Human Resource Management system will raise awareness among management and staff, adhere to waste management practices, minimize resource wastage, and maintain campus cleanliness. It will ultimately lead to the satisfaction of various stakeholders, including employees, and motivate them to improve their productivity.

Ritu Saxena (2020) found that a structured, unified approach should be taken in the recruitment process to ensure that candidates with a positive attitude are selected, thereby improving the organization and promoting a better environment and a greener workplace.

Debarun Chakrabarty et al. (2020) suggested that green hiring and selection, green training, green performance management, green reward management, and green employee engagement provide a way to strengthen a green management perspective for companies that promote environmentalism and significantly impact business sustainability. In this study, 264 respondents (HR managers, HR officers, and HR directors of different companies) were selected. The document highlights the importance of green performance management practices that help empower employees.

Yong Joong Kim, Woo Gon Kim, Hyung-Min Choi, Kullada Phetvaroon (2019) “The impact of green human resource management on employees’ eco-friendly behavior and environmental performance.” This study was conducted when little pioneering research had been undertaken in the hotel industry. The area of research had great potential. The study aimed to explore the need to develop workers’ attitudes and behavioral awareness towards environmental issues by adopting Green HRM measures. The study has established a sense of commitment and behavior among employees in the hotel industry. In this line of thinking, the study suggests that apex-level management should develop policies through Human Resources departments to implement green HRM practices to augment growth and development.

Research Problem

Environmental sustainability has become a major concern in the twenty-first century due to rapid population growth, urbanization, industrialization, pollution, climate change, excessive consumption of natural resources, and changing lifestyles. Many Organizations are now expected to adopt environmentally responsible practices to minimize environmental damage and promote sustainable

development. In this context, Green Human Resource Management (GHRM) has gained attention as an important approach that integrates environmental sustainability into human resource practices.

Educational institutions, particularly arts and science colleges, have a significant responsibility in promoting environmental awareness and sustainable behavior among students, faculty, and society. Teaching faculty members play an important role in this process through teaching, research, academic activities, and participation in institutional environmental initiatives. However, the success of environmental sustainability programs depends not only on infrastructure and technology but also on the effective involvement and engagement of employees.

Implementing GHRM practices such as environmentally focused Recruitment and Selection, Green Training and Development, Green Employee Involvement, Green Rewards and Compensation, and Green Employee Engagement may help develop environmentally responsible faculty members. However, the extent to which these practices are implemented and perceived by teaching faculty in arts and science colleges remains insufficiently examined. Limited research has specifically investigated GHRM practices within arts and science colleges in Chennai.

Therefore, the present study seeks to examine the implementation and impact of GHRM practices among teaching faculty members of selected arts and science colleges in Chennai. The study focuses on faculty perceptions of major GHRM practices and examines their association with selected demographic characteristics. The findings may help educational institutions strengthen environmentally responsible human resource policies and promote sustainable academic campuses.

Objectives of the Study

The present study has the following objectives:

- To identify and assess the various dimensions of Green Human Resource Management practices adopted in selected arts and science colleges in Chennai.
- To study the perceptions of teaching faculty members regarding Green Human Resource Management practices adopted by selected arts and science colleges in Chennai.
- To examine the relationship between the demographic characteristics of teaching faculty members and their perceptions of Green Human Resource Management practices.
- To analyze the differences in the perceptions of teaching faculty members regarding Green Human Resource Management practices based on selected demographic characteristics.
- To examine the overall implementation and impact of Green Human Resource Management practices among the teaching faculty members of selected arts and science colleges in Chennai.

Hypotheses of the Study

- H₀₁:** There is no significant association between the demographic characteristics of the respondents and their perceptions of Green Human Resource Management practices.
- H₀₂:** There is no significant difference between the age of the respondents and their perceptions of various Green Human Resource Management practices.
- H₀₃:** There is no significant difference in the perceptions of Green Recruitment and Selection practices among teaching faculty members based on selected demographic characteristics.
- H₀₄:** There is no significant difference in the perceptions of Green Training and Development practices among teaching faculty members based on selected demographic characteristics.
- H₀₅:** There is no significant difference in the perceptions of Green Employee Involvement, Green Rewards and Compensation, and Green Employee Engagement practices among teaching faculty members based on selected demographic characteristics.

Research Methodology

S. No	Methodology Aspects	Description
1.	Title of the Study	Green Human Resource Management Practices and Teaching Faculty Performance: A Study of Arts and Science Colleges in Chennai
2.	Nature of the Study	Empirical Study
3.	Research Approach	Quantitative Research Approach

4.	Research Design	Descriptive Research Design
5.	Study Area	Chennai
6.	Study Population	Teaching faculty members working in selected arts and science colleges in Chennai
7.	Number of Colleges	Five selected arts and science colleges
8.	Sample Size	143 teaching faculty members
9.	Sampling Technique	Simple Random Sampling
10.	Primary Source of Data	Data collected from teaching faculty members through a structured questionnaire
11.	Secondary Source of Data	Academic journals, books, research articles, newspapers, institutional websites, reports, and other relevant sources
12.	Data Collection Instrument	Structured Questionnaire
13.	Mode of Data Collection	Online questionnaire through Google Forms
14.	Measurement Scale	Five-Point Likert Scale
15.	Scale Categories	Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree
16.	Independent Variable	Green Human Resource Management Practices
17.	Dimension I	Green Recruitment and Selection
18.	Dimension II	Green Training and Development
19.	Dimension III	Green Employee Involvement
20.	Dimension IV	Green Rewards and Compensation
21.	Dimension V	Green Employee Engagement
22.	Demographic Variables	Gender, Age, Marital Status, Designation, Annual Income, Qualification, and Experience
23.	Unit of Analysis	Individual teaching faculty member
24.	Statistical Tools	Percentage Analysis, Chi-square Test, One-way ANOVA, and Correlation Analysis
25.	Level of Significance	5%
27.	Data Analysis Software	SPSS / appropriate statistical software
28.	Nature of Data	Primary and Secondary Data
29.	Study Period	10 Months

Data Analysis and Interpretation

• Demographic Profile of the Respondent (Percentage Analysis)

Table 4.1.1: Gender of the Respondents

Gender	Frequency	Percentage
Male	97	67.8
Female	46	32.2
Total	143	100

Interpretation: The table reveals that out of 143 respondents, 91 (63.6%) were female and 52 (36.4%) were male. It is inferred that female faculty members constitute the majority of the respondents.

Table 4.1.2 Age of the Respondents

Age	Frequency	Percentage
Below 30 Years	28	19.6
31 – 40 Years	52	36.4
41 – 50 Years	43	30.0
Above 50 Years	20	14.0
Total	143	100

Interpretation: Table 4.1.2 shows that the majority of respondents, 52 (36.4%), were aged 31–40 years, followed by 43 (30%) aged 41–50 years. Respondents below 30 years accounted for 28 (19.6%), while 20 (14%) were above 50 years. Hence, most respondents belonged to the 31–40-year age group.

Table 4.1.3: Marital Status

Marital Status	Frequency	Percentage
Married	93	65
Unmarried	50	35
Total	143	100

Interpretation: Table 4.1.3 shows the marital status of the 143 respondents. The majority of respondents were married, accounting for 93 (65%) of the total, while 50 (35%) were unmarried. This indicates that married respondents constituted a larger proportion of the study sample than unmarried respondents.

Table 4.1.4: Designation

Designation	Frequency	Percentage
HOD	23	16.1
Associate Professor	36	25.2
Assistant Professor	76	53.1
Guest Lecturer	8	5.6
Total	143	100

Interpretation: The table shows that, of the 143 respondents, the majority (53.1%) are Assistant Professors, followed by Associate Professors (25.2%) and HODs (16.1%). Guest Lecturers constitute the smallest proportion of respondents, at 5.6%. This indicates that the respondents are predominantly Assistant Professors, suggesting that their views and responses constitute the largest share of the collected data.

Table 4.1.5: Annual Income

Annual Income	Frequency	Percentage
Up to 3 lakhs	88	61.5
3 – 6 lakhs	39	27.3
6 – 9 lakhs	12	8.4
Above 9 lakhs	4	2.8
Total	143	100

Interpretation: The table shows the annual income distribution of the respondents. A majority of the respondents, 88 (61.5%), have an annual income of up to 3 lakhs. This is followed by 39 respondents (27.3%) who earn between 3 and 6 lakhs. About 12 respondents (8.4%) have an annual income between 6 and 9 lakhs, while only 4 respondents (2.8%) earn above 9 lakhs. Thus, the findings indicate that the majority of respondents fall into the lower annual income category of up to 3 lakhs.

Table 4.1.6: Educational Qualification

Qualification	Frequency	Percentage
PhD with NET/SET	26	18.2
PhD	47	32.9
MPhil with NET/SET	12	8.4
MPhil	22	15.4
PG with NET/SET	16	11.2
Others	20	14.0
Total	143	100

Interpretation: The table presents the respondents' educational qualifications. Among the 143 respondents, 47 (32.9%) possess a PhD, representing the largest group. This is followed by 26 respondents (18.2%) who have a PhD with NET/SET qualification. A total of 22 respondents (15.4%) hold an MPhil, while 20 (14.0%) have other qualifications. Further, 16 respondents (11.2%) have a PG with NET/SET qualification, and 12 respondents (8.4%) possess an MPhil with NET/SET qualification. Overall, the findings indicate that a considerable proportion of the respondents possess higher educational qualifications, particularly PhD and PhD with NET/SET.

Table 4.1.7: Teaching Experience

Qualification	Frequency	Percentage
Below 1 Year	16	11.2
1 – 5 Years	71	49.7
5 – 10 Years	32	22.4
10 – 15 Years	18	12.6
Above 15 Years	6	4.2
Total	143	100

Interpretation: The table presents the respondents' teaching experience. A majority of respondents (71; 49.7%) have 1–5 years of teaching experience. This is followed by 32 respondents (22.4%) with 5–10 years of experience. About 18 respondents (12.6%) have 10–15 years of teaching experience, while 16 respondents (11.2%) have less than one year of experience. Only 6 respondents (4.2%) have more than 15 years of teaching experience. Thus, the findings indicate that nearly half of the respondents have 1–5 years of teaching experience, suggesting that the sample predominantly comprises teachers with relatively early-to-moderate teaching experience.

- Association between Age of the Respondents and Practices of GHRM**

H01: There is no significant association between the age of the respondents and their practice of green human resource management (GHRM) in their colleges.

H11: There is a significant association between the age of the respondents and their practice of green human resource management (GHRM) in their colleges.

Table 4.2: Age of the Respondents and Practice of GHRM

Age group	Yes	No	May be	Total
Below 30 years	12	10	8	28
31-40 years	26	18	8	52
41-50 years	23	18	2	43
Above 50 years	10	6	4	20
Total	71	52	20	143

Table 4.2.1: Chi-Square Test of Association

Statistical Test	χ^2 Value	df	p-value	Decision
Chi-Square	5.395	6	0.494	Not Significant

Level of significance: 0.05

Interpretation: The table presents the association between respondents' age and their practice of Green Human Resource Management (GHRM). The Pearson Chi-Square test yielded a value of $\chi^2 = 5.395$ with 6 degrees of freedom, and the corresponding p-value was 0.494.

Since the p-value (0.494) exceeds the 0.05 significance level, the result is not statistically significant. Therefore, the null hypothesis is not rejected.

So, there is no significant association between respondents' age and their practice of Green Human Resource Management (GHRM) in their colleges. This indicates that GHRM practices do not differ significantly by respondents' age.

- Gender and GHRM Practices endorsed by the college**

H01: There is no significant association between gender and the GHRM practices endorsed by the college.

H11: There is a significant association between gender and the GHRM practices endorsed by the college.

Table 4.3: Gender and Practice of GHRM endorsed by the college

GHRM Practices Endorsed	Male	Female	Total
Promote social responsibility	32	12	44
Develop teaching excellence	22	14	36
Helps in employee retention	20	10	30
Build esteem	15	8	23
Escalate admission	8	2	10
Total	97	46	143

Table 4.3.1: Chi-Square Test of Association

Statistical Test	χ^2 Value	df	p-value	Decision
Chi-Square	1.998	4	0.736	Not Significant

Level of significance: 0.05

Interpretation: The Pearson Chi-Square value is 1.998 with 4 degrees of freedom, and the p-value is 0.736. Since $p = 0.736 > 0.05$, the result is not statistically significant. Therefore, the null hypothesis is not rejected. So, there is no significant association between gender and the GHRM practices endorsed by the college.

Table 4.4: One-Sample t-Test on Green Human Resource Management Practices Followed by Teaching Faculty

S.NO	Green Human Resource Management Practice	Mean	SD	t-value	df	p-value	Result
1.	Getting notes through online/Connect 4M	3.238	1.389	2.047	142	0.043	Significant
2.	Sending audio notes to students	3.385	1.373	3.349	142	0.001	Significant
3.	Receiving assignments from students online	3.385	1.337	3.440	142	<0.001	Significant
4.	Using online/app to post students' daily attendance	3.378	1.393	3.241	142	0.002	Significant
5.	Posting marks online	3.510	1.337	4.567	142	<0.001	Significant
6.	Using ICT tools such as PPT for classes	3.469	1.326	4.226	142	<0.001	Significant
7.	Updating class schedules, subjects, and syllabus online	3.503	1.383	4.352	142	<0.001	Significant
8.	Getting results from websites	3.469	1.347	4.160	142	<0.001	Significant

Note: Likert scale: SA = 5, A = 4, N = 3, DA = 2, SDA = 1. Test value = 3 (Neutral). N = 143. df = 142. Level of significance = 0.05.

Statistical Test	t-value	df	p-value	Decision
One-Sample t-test	2.047–4.567	142	0.043 to <0.001	Significant

Interpretation: The one-sample t-test was employed to examine whether the perceptions of teaching faculty members towards the selected Green Human Resource Management practices differed significantly from the neutral value of **3.00**. The mean scores ranged from **3.238 to 3.510**. All eight GHRM practices recorded **p-values below 0.05**, indicating statistically significant differences from the neutral level.

The highest mean score was observed for **posting marks online (M = 3.510)**, followed by **updating class schedules, subjects, and syllabus online (M = 3.503)**. The lowest mean score was observed for **getting notes through online/Connect 4M (M = 3.238)**. Since all p-values are less than 0.05, the **null hypothesis is rejected for all eight practices**.

Therefore, the teaching faculty members have a significantly positive perception of the selected Green Human Resource Management practices.

Table 4.5: Multiple Regression Analysis of Demographic Characteristics Influencing GHRM Practices

H₀: There is no significant influence of the selected demographic characteristics on the perception of Green Human Resource Management practices among teaching faculty members.

H₁: There is a significant influence of the selected demographic characteristics on the perception of Green Human Resource Management practices among teaching faculty members.

- **Multiple Regression Analysis of Demographic Characteristics Influencing GHRM Practices**

S.No	Independent Variable	B	Std. Error	Beta (β)	t-value	p-value	Result
1	Gender	0.084	0.071	0.091	1.183	0.239	Not Significant
2	Age	0.126	0.058	0.168	2.172	0.032	Significant
3	Marital Status	0.041	0.067	0.046	0.612	0.541	Not Significant
4	Designation	0.157	0.063	0.192	2.492	0.014	Significant
5	Annual Income	0.103	0.055	0.128	1.873	0.063	Not Significant
6	Educational Qualification	0.118	0.052	0.171	2.269	0.025	Significant
7	Teaching Experience	0.139	0.061	0.181	2.279	0.024	Significant

- **Model Summary**

R	R ²	Adjusted R ²	Std. Error of the Estimate
0.487	0.237	0.197	0.684

- **ANOVA of Multiple Regression Model**

Model	Sum of Squares	df	Mean Square	F-value	p-value	Decision
Regression	18.642	7	2.663	5.687	<0.001	Significant
Residual	63.236	135	0.468			
Total	81.878	142				

Level of significance: 0.05

Interpretation: The multiple regression analysis was conducted to examine the influence of selected demographic characteristics on the perception of Green Human Resource Management practices among teaching faculty members. The model includes gender, age, marital status, designation, annual income, educational qualification, and teaching experience as independent variables.

The model summary shows an **R value of 0.487**, indicating a moderate relationship between the selected demographic characteristics and GHRM perception. The **R² value of 0.237** indicates that approximately **23.7% of the variation in GHRM perception** is explained by the demographic variables included in the model. The ANOVA results show an **F-value of 5.687** with a **p-value of less than 0.001**. Since $p < 0.05$, the regression model is statistically significant.

Among the individual predictors, **age, designation, educational qualification, and teaching experience are statistically significant at the 5% level, whereas gender, marital status, and annual income** are not. So, the selected demographic characteristics collectively have a significant influence on the perception of GHRM practices among teaching faculty members.

- **Hypothesis Testing**

- **H₀₁:** There is no significant association between the demographic characteristics of the respondents and their perceptions of Green Human Resource Management practices.

A Chi-square test of association was used to examine whether respondents' demographic characteristics were associated with their overall perception of Green Human Resource Management practices. The overall GHRM perception was classified into low, moderate, and high categories.

Demographic Variable	χ^2 Value	df	p-value	Decision
Gender	5.373	2	0.068	Fail to Reject H ₀
Age	19.018	6	0.004	Reject H ₀
Marital Status	7.408	2	0.025	Reject H ₀
Designation	13.691	6	0.033	Reject H ₀
Annual Income	16.976	6	0.009	Reject H ₀
Educational Qualification	19.171	10	0.038	Reject H ₀
Teaching Experience	21.643	8	0.006	Reject H ₀

Interpretation: The Chi-square analysis indicates that age, marital status, designation, annual income, educational qualification, and teaching experience are significantly associated with respondents' overall perceptions of GHRM practices, as their p-values are below 0.05. However, gender is not statistically associated with overall GHRM perception, as its p-value of 0.068 exceeds 0.05.

Therefore, the null hypothesis is **rejected for age, marital status, designation, annual income, educational qualification, and teaching experience**, but not for gender.

- **H₀₂:** There is no significant difference between the age of the respondents and their perceptions of various Green Human Resource Management practices.

A one-way ANOVA was used to determine whether perceptions of the different GHRM dimensions varied significantly across the four age groups.

GHRM Dimension	F-value	p-value	Decision
Green Recruitment and Selection	1.328	0.268	Fail to Reject H ₀
Green Training and Development	3.300	0.022	Reject H ₀
Green Employee Involvement	2.281	0.082	Fail to Reject H ₀
Green Rewards and Compensation	2.692	0.049	Reject H ₀
Green Employee Engagement	0.290	0.833	Fail to Reject H ₀
Overall GHRM	4.940	0.003	Reject H ₀

Interpretation: The ANOVA results show that age has a statistically significant influence on perceptions of Green Training and Development (F = 3.300, p = 0.022) and Green Rewards and Compensation (F = 2.692, p = 0.049). A significant difference is also observed for the overall GHRM score (F = 4.940, p = 0.003).

However, there is no significant difference across age groups in Green Recruitment and Selection, Employee Involvement, and Employee Engagement, as their p-values are greater than 0.05. Thus, perceptions of certain GHRM practices differ according to age.

- **H₀₃:** There is no significant difference in the perceptions of Green Recruitment and Selection practices among teaching faculty members based on selected demographic characteristics.

Green Recruitment and Selection perceptions were compared across the selected demographic groups using independent-samples t-tests for two-category variables and one-way ANOVA for variables with more than two categories.

Demographic Variable	Test	Statistic	p-value	Decision
Gender	Independent t-test	-1.147	0.254	Fail to Reject H ₀
Age	One-way ANOVA	1.328	0.268	Fail to Reject H ₀
Marital Status	Independent t-test	-1.167	0.246	Fail to Reject H ₀
Designation	One-way ANOVA	1.035	0.379	Fail to Reject H ₀
Annual Income	One-way ANOVA	3.053	0.031	Reject H ₀
Educational Qualification	One-way ANOVA	0.543	0.743	Fail to Reject H ₀
Teaching Experience	One-way ANOVA	1.723	0.148	Fail to Reject H ₀

Interpretation: The results indicate that annual income is the only demographic characteristic producing a statistically significant difference in perceptions of Green Recruitment and Selection practices (F = 3.053, p = 0.031).

Gender, age, marital status, designation, educational qualification, and teaching experience do not show statistically significant differences because their p-values are greater than 0.05.

- **H₀₄:** There is no significant difference in the perceptions of Green Training and Development practices among teaching faculty members based on selected demographic characteristics.

Demographic Variable	Test	Statistic	p-value	Decision
Gender	Independent t-test	-0.556	0.580	Fail to Reject H ₀
Age	One-way ANOVA	3.300	0.022	Reject H ₀
Marital Status	Independent t-test	-0.784	0.434	Fail to Reject H ₀

Designation	One-way ANOVA	1.470	0.225	Fail to Reject H_0
Annual Income	One-way ANOVA	1.408	0.243	Fail to Reject H_0
Educational Qualification	One-way ANOVA	2.262	0.052	Fail to Reject H_0
Teaching Experience	One-way ANOVA	1.738	0.145	Fail to Reject H_0

Interpretation: The ANOVA results indicate a significant difference in perceptions of Green Training and Development across age groups, with $F = 3.300$ and $p = 0.022$. Since $p < 0.05$, the null hypothesis is rejected for age.

For gender, marital status, designation, annual income, qualification, and teaching experience, the p-values are all greater than 0.05. Hence, there is no statistically significant difference in perceptions of Green Training and Development across these demographic characteristics.

- H_{05} : There is no significant difference in the perceptions of Green Employee Involvement, Green Rewards and Compensation, and Green Employee Engagement practices among teaching faculty members based on selected demographic characteristics.

Green Employee Involvement

Demographic	Statistic	p-value	Decision
Gender	-1.855	0.068	Fail to Reject H_0
Age	2.281	0.082	Fail to Reject H_0
Marital Status	-2.196	0.031	Reject H_0
Designation	2.546	0.059	Fail to Reject H_0
Annual Income	3.246	0.024	Reject H_0
Qualification	2.361	0.043	Reject H_0
Experience	3.342	0.012	Reject H_0

Interpretation: Green Employee Involvement differs significantly by marital status, annual income, educational qualifications, and teaching experience. No significant differences are observed for gender, age, or designation.

Green Rewards and Compensation

Demographic	Statistic	p-value	Decision
Gender	-1.913	0.060	Fail to Reject H_0
Age	2.692	0.049	Reject H_0
Marital Status	-2.408	0.018	Reject H_0
Designation	1.427	0.237	Fail to Reject H_0
Annual Income	2.773	0.044	Reject H_0
Qualification	1.645	0.152	Fail to Reject H_0
Experience	2.056	0.090	Fail to Reject H_0

Interpretation: Perceptions of Green Rewards and Compensation differ significantly by age, marital status, and annual income. Gender, designation, educational qualification, and teaching experience do not differ significantly.

Green Employee Engagement

Demographic	Statistic	p-value	Decision
Gender	0.051	0.959	Fail to Reject H_0
Age	0.290	0.833	Fail to Reject H_0
Marital Status	0.248	0.805	Fail to Reject H_0
Designation	0.947	0.420	Fail to Reject H_0
Annual Income	3.227	0.025	Reject H_0
Qualification	0.331	0.894	Fail to Reject H_0
Experience	1.126	0.347	Fail to Reject H_0

Interpretation: The findings indicate that annual income significantly affects perceptions of Green Employee Engagement ($F = 3.227$, $p = 0.025$). No significant differences are found based on gender, age, marital status, designation, qualification, or teaching experience.

Major Findings of the Study

The present study examined Green Human Resource Management (GHRM) practices followed by teaching faculty members in selected arts and science colleges in Chennai. The study considered five major dimensions of GHRM: Green Recruitment and Selection, Green Training and Development, Green Employee Involvement, Green Rewards and Compensation, and Green Employee Engagement.

- The study was based on 143 teaching faculty respondents. The demographic profile shows that the respondents spanned different age groups, marital statuses, designations, income levels, educational qualifications, and categories of teaching experience. The largest age group was 31–40 years, comprising 36.4% of the respondents.
- In terms of designation, Assistant Professors constituted the largest group of respondents (53.1%), followed by Associate Professors (25.2%), HODs (16.1%), and Guest Lecturers (5.6%).
- The majority of respondents, 61.5%, belonged to the annual-income category of up to three lakhs, while 27.3% earned between three and six lakhs.
- Educationally, 32.9% of respondents possessed a PhD, making this the largest qualification group. This was followed by respondents with PhD with NET/SET and MPhil qualifications.
- Regarding teaching experience, 49.7% had between one and five years of experience, indicating that a large proportion of respondents were in the early to moderate stage of their teaching careers.
- The one-sample t-test showed that all eight selected green practices had mean scores above the neutral value of 3.00 and were statistically significant at the 5% level. The means ranged from 3.238 to 3.510, indicating a significantly positive perception of these practices.
- Posting marks online recorded the highest mean score of 3.510, followed by updating class schedules, subjects, and syllabus online with a mean of 3.503. Getting notes through online/Connect 4M recorded the lowest mean of 3.238.
- The Chi-square analysis found no significant association between age and GHRM practice in the original association test, with $\chi^2 = 5.395$, $df = 6$, and $p = 0.494$.
- Similarly, the analysis of gender and GHRM practices produced $\chi^2 = 1.998$, $df = 4$, and $p = 0.736$, indicating no statistically significant association between gender and the GHRM practices endorsed by the college.
- The hypothesis analysis indicates that demographic variables do not affect all dimensions of GHRM in the same manner. In the extended hypothesis analysis, significant associations were found for selected demographic characteristics, including age, marital status, designation, annual income, educational qualification, and teaching experience, while gender was not significant.
- Age produced significant differences in perceptions of Green Training and Development and Green Rewards and Compensation. At the same time, Green Recruitment and Selection, Employee Involvement, and Employee Engagement did not differ significantly across age groups.
- For Green Recruitment and Selection, annual income was the only demographic characteristic showing a statistically significant difference ($F = 3.053$, $p = 0.031$).
- For Green Training and Development, age showed a statistically significant difference ($F = 3.300$, $p = 0.022$), while the other demographic variables did not show significant differences.
- Green Employee Involvement differed significantly according to marital status, annual income, educational qualification, and teaching experience.
- Green Rewards and Compensation showed significant differences based on age, marital status, and annual income.

- Green Employee Engagement showed a significant difference based on annual income, while gender, age, marital status, designation, qualification, and teaching experience were not significant.
- The multiple regression analysis of demographic characteristics showed $R = 0.487$ and $R^2 = 0.237$, indicating that approximately 23.7% of the variation in perceptions of GHRM practices was explained by the selected demographic characteristics. The overall model was statistically significant with $F = 5.687$ and $p < 0.001$. Age, designation, educational qualification, and teaching experience were significant predictors, while gender, marital status, and annual income were not significant in that regression model.

Suggestions of the Study

- **Strengthen Green Recruitment and Selection:** Colleges should incorporate environmental awareness and sustainability-related competencies into recruitment and selection criteria.
- **Enhance Green Training and Development:** Institutions should conduct regular training programs on environmental sustainability, energy conservation, waste management, recycling, paper reduction, and digital teaching practices.
- **Increase Faculty Participation:** Colleges should establish green committees and suggestion schemes that enable faculty members to participate in environmental initiatives actively.
- **Improve Green Rewards and Compensation:** Since reward-related practices require greater attention, institutions should introduce both financial and non-financial rewards for faculty members who demonstrate strong green behavior.
- **Introduce Green Performance Recognition:** Green activities may be included in faculty appraisal systems, with certificates, awards, recognition, and career-related incentives for meaningful contributions.
- **Promote Digital Academic Practices:** Greater use of online attendance, online assessment, digital notes, online marks, electronic communication, and digital academic records can reduce paper consumption and resource use.
- **Strengthen the 3R Approach:** Institutions should systematically implement **Reduce, Reuse, and Recycle** practices across classrooms, offices, laboratories, and campus facilities.
- **Conduct Environmental Awareness Programs:** **Debates, competitions, workshops, seminars, campaigns, and family-oriented environmental programs** can strengthen environmental awareness among faculty members and their families.
- **Develop a Formal GHRM Policy:** Colleges should formulate a written GHRM policy that clearly defines institutional responsibilities for green recruitment, training, employee involvement, rewards, and engagement.
- **Consider Faculty Demographic Differences:** Since some GHRM perceptions differ across demographic categories, institutions should design flexible and inclusive programs that take the different experiences and backgrounds of faculty members into consideration.
- **Monitor and Evaluate GHRM Practices:** Periodic surveys should be conducted to measure faculty perceptions, identify gaps, and improve the implementation of GHRM practices.
- **Integrate GHRM with Institutional Strategy:** Environmental sustainability should be incorporated into human resource planning and the broader academic and administrative strategy of the institution.

Conclusion

Green Human Resource Management is an important approach for integrating environmental sustainability into the human resource practices of higher educational institutions. The present study examined the perceptions of teaching faculty members regarding Green Recruitment and Selection, Green Training and Development, Green Employee Involvement, Green Rewards and Compensation, and Green Employee Engagement.

The findings show that teaching faculty members generally have a positive perception of the selected green practices, as the tested practices recorded mean values above the neutral point of 3.00 and were statistically significant.

The study also shows that the implementation and perception of GHRM practices differ across demographic groups. Selected demographic characteristics, such as age, designation, annual income, educational qualification, marital status, and teaching experience, show significant associations or differences across specific dimensions. In contrast, gender is generally not significant in the relevant analyses.

The findings particularly highlight the importance of green training, digital academic practices, faculty involvement, and environmental engagement. At the same time, institutions need to pay greater attention to green rewards and compensation, as formal incentives can encourage faculty members to maintain environmentally responsible behavior.

The regression analysis further indicates that demographic characteristics collectively have a significant relationship with perceptions of GHRM practices, with age, designation, educational qualification, and teaching experience emerging as significant predictors.

In conclusion, arts and science colleges can strengthen sustainability by embedding GHRM principles into their recruitment, training, employee involvement, reward, and engagement systems. A systematic GHRM framework can help institutions promote environmentally responsible faculty behavior, raise awareness, reduce unnecessary resource use, and foster a stronger culture of sustainability across the academic campus.

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