A STUDY OF EFFECTIVE IMPLEMENTATION OF GREEN HRM POLICIES AND PRACTICES WITHIN IT COMPANIES: PILOT STUDY

D.K. Salunke[1] and A.B. Dadas[2]

[1]Sai Balaji International Institute of Management Studies, Pune
[2]Neville Wadia Institute of Management Studies & Research, Pune
[1]dhananjaysalunke@gmail.com

ABSTRACT

Sustainable development is one of the most prominent themes before the management of various organizations. Towards this end objective, Green HRM practices lay an essential foundation. Currently, Green HRM practices are used with varied effectiveness. The research tries to study the effective implementation of Green HRM policies and practices within IT Companies by a survey of 400 Senior/HR managers, employees, and the general Public in Pune. As a part of the primary research, a pilot study of 40 respondents (Senior Managers, Employees, and General Public) was conducted in the initial phase. This paper presents the pilot study report. The findings suggest no significant integration of the company's environmental practices and Green HRM practices.Moreover, there is no effective implementation of Green HRM practices. However, the implementation of Green HRM practices has a significant relationship with employee satisfaction and the public image of the company. Green HRM awareness and implementation have excellent future potential, given the increasing trend of various organizations' sustainability and environmental efforts.

Keywords: *Green HRM, Sustainability, Environment, Employee Satisfaction, Public Image.*

1. Introduction

Introduction to the study

The research was undertaken to study the effective implementation of Green HRM policies and practices within IT Companies by a survey of 400 Senior/HR managers, employees, and the general Public in Pune. As a part of the primary research, a pilot study of 40 respondents was conducted in the initial phase.

United Nations Member States accepts the 2030 Agenda for Sustainable Development in unity in 2015. The Agenda offers a shared plan for prosperity and peace for individuals and the planet, presently and into the future. The seventeen Sustainable Development Goals (SDGs) are, at their core, an emergency call for action by all developed and developing nations in a worldwide partnership.

Green HRM is defined as the amalgamation of environmental administration into human resources management. The phrase green HRM is usually used to mention HRM rules and guidelines towards the broader corporate ecological schedule. It mentions using each employee to help sustainable practices and upsurge employee alertness and promises on sustainability. Distinctive green activities are led to fulfill needs through video recruiting or by using online and video interviews. Green HR initiatives help companies to detect substitute ways to reduce costs without losing their chief talent. Attention on Green HRM as a planned initiative encourages sustainable business practices.

Green HRM is a broad theme that encompasses various activities such as Green recruitment, Green training and development, Green performance management system, Green rewards, and recognition.

Against this backdrop, a study was undertaken to see the effective implementation of Green HRM policies and practices within IT Companies from Pune.

Research Objectives

1. To assess whether the company's environmental practices and Green HRM policies are integrated
2. To assess the effectiveness of the implementation of Green HRM policies
3. To assess whether the Green HRM practices lead to employee satisfaction
4. To assess whether the Green HRM practices lead to the better public image

Introduction to the Pilot study

A pilot study seeks to determine if the research can be done, should the researchers proceed with the same, and if so, in what manner. A pilot study also has unique design features. It is carried on a much smaller scale than the full-scale main or study (In, 2017). As a precursor to the main study, this pilot study was undertaken with the following goals:

1. To understand critical practical aspects in data collection
2. To put to the test the use of the survey questionnaire
3. To check if the hypotheses get duly tested as per the research methodology
4. To test the validity and reliability of the survey questionnaire

2. Literature review

There are several articles on green HRM policies and practices, integration of green HRM policies with environmental policies, green HRM implementation, and green HRM on employees and Public at large or in society. A few examples are given below.

Sathya & Krishanan (2019) found that green HRM is applying Human Resource Management tactics to encourage the sustainable use of resources within business administrations and more usually inspires the cause of environmental sustainability. The study aims to discover Green Human Resource Management approaches of administrations and encourage the philosophy that is significant for the appropriate arrangement of human resource management philosophies with green management purposes in an organization. It is an expressive approach based on both primary and secondary information. Green HRM includes all activities targeted at aiding a firm to carry out its plan for environmental management to decrease its carbon footprint in zones worries on embarkation and achievement of human resources, initiation, performance assessment & management, training and development, and pay reward management. This is only likely by the operative implementation of green HRM within the administration. These practices would result in enhancing employee attitudes and behaviors within the organization.

Yusoff et al. (2020) found that the hotel industry is expanding rapidly in developing nations due to an increase in the tourism sector; however, on the other hand, the hotel sector is one of the sectors mainly increasing the pressure on the environment. Hence, because of an enormous number of environmental problems that the hotel industry has experienced, there is an upsurging force to give an appropriate reaction to environmental problems and implementing sustainable business methods such as the acceptance of green human resource management (HRM) practices offer a win-win choice for the organization and its shareholders. Hence, it points out the necessity to assess how green HRM initiatives will enhance the environmental presentation in the hotel sector. Based on resource-based view theory, the study applied an investigative model examining the association among green HRM initiatives (green staffing and assortment, green training and enhancement, green performance assessment, and green reimbursement) and ecological performance in Malaysia's hotel sector. Survey forms were circulated to human resource (HR) administrators/ executives in three-, four- and five-star hotels in Malaysia. In total, 206 hotels were involved in the study. The information collected was examined applying partial least squares structural equation modeling. Based on the analysis, the study discovered that green recruitment and selection, green training and enhancement, and green reimbursement have a meaningful association with environmental performance.

In contrast, green performance evaluation did not have a substantial relationship with environmental performance. The outcomes extend the previous study by emphasizing the importance of green HRM practices in functioning environmental performance and signifying how each part of green HRM practices either enhances or motivates environmental performance. This is the primary experiential study that examines the association between green HRM and environmental performance in the hotel sector.

Alzgool (2019) found that the study tried to understand Green HRM's connection, Green Management, towards demonstrating individual Green values. Moreover, the study

tried to evaluate the control of green management on the association between Green HRM and individual Green standards. A substantial private delivery business in Bahrain was chosen for the current study based on the recent initiatives towards green practices across the main work predictions. Outcomes of the structural equation modeling from the organization's non-managerial employees specified a significant positive association between green HRM and individual green standards. Accordingly, the study also stated a significant relationship between Green Management and improvement of individual green values. The study also stated vital control of green management on the association between green HRM and individual green standards. The study forwards implications for experts followed by the restrictions and scope for future studies.

A comprehensive study focusing on the IT industry in the Indian context is not so easily seen. Therefore, this study investigates the effective implementation of Green HRM policies and practices within IT Companies.

Methodology

Population and sample for the main study

Figure 1: Number of IT companies in Pune
(Source: The Hindu, 2017)

Going by the number of more than 800 IT companies, we take them as 1000 to account for non-registered entities. Thus, the population of IT companies in Pune is 1000. The population concerning senior/HR managers, employees, and the general public is undoubtedly huge (greater than 10000). The sample size using a 95% Confidence Level with 5% Confidence Interval is 370.
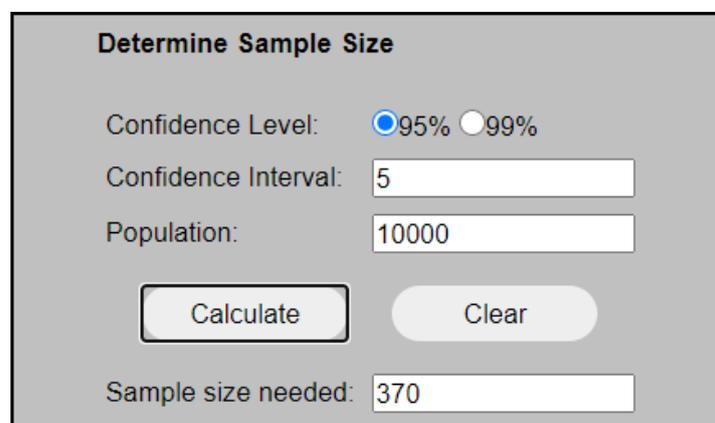
Figure 2: Sample Size Calculator
(Source: Survey Systems, 2019)

This was rounded off to 400. Thirty companies were selected on a random basis from the complete list of the companies. Multiple respondents from the same company were allowed subject to a cap of 20. This means if, say, employees from TCS are responding, then up to 20 Senior Managers, 20 Employees, and 20 respondents from the general public were allowed to respond to their respective questionnaires.

The sample size for a pilot study

Going by standard research conventions, 40 Senior/HR Managers, 40 Employees, and 40 General Public were selected for the pilot study.

Questionnaire for the survey:

Three questionnaires were administered for the survey.

1. The First questionnaire was designed with profile information and two sections, each with ten questions for the Senior/HR managers. Responses were taken on a 5-point Likert effectiveness scale.

2. The Second questionnaire was designed with profile information and one section with ten questions for the employees. Responses were taken on a 5-point Likert satisfaction scale.

3. The Third questionnaire was designed with profile information and one section with ten general public questions. Responses

were taken on a 5-point Likert image scale.

The questionnaires were tested for validity and reliability as under:

Test of validity – The hypotheses, hypotheses testing method, questionnaire, etc., were validated by the Guide and other experts in the field to ensure that the measurement was adequate and accurate in terms of the desired direction. Responses sought were duly controlled to ensure that only valid input data is collected.

Test of reliability – Cronbach's Alpha tests were applied to the questionnaire using "Siegle Reliability Calculator" (Seigle, 2020), an excel program, and the results are summarized as under –

Table 1: Reliability scores of the questionnaire

Section No.	Section Title	Cronbach's Alpha
Managers	Entire questionnaire	0.932
	Section I	0.861
	Section II	0.875
Employees	Section I	0.870
General Public	Section I	0.865

As all the Cronbach's alpha score were more than 0.70, the questionnaires were considered as reliable.

Hypotheses formulation
The hypotheses formulation is presented below

Table 2: Hypotheses formulation

Sr. No.	Area of study	Null hypothesis	Alternate hypothesis
1	Integration with the company's environmental practices	There is no significant integration.	There is an effective integration.
2	Implementation of Green HRM practices	There is no effective implementation.	There is effective implementation.
3	Employee satisfaction	There is no significant impact.	There is a significant impact.
4	Public Image	There is no significant impact.	There is a significant impact.
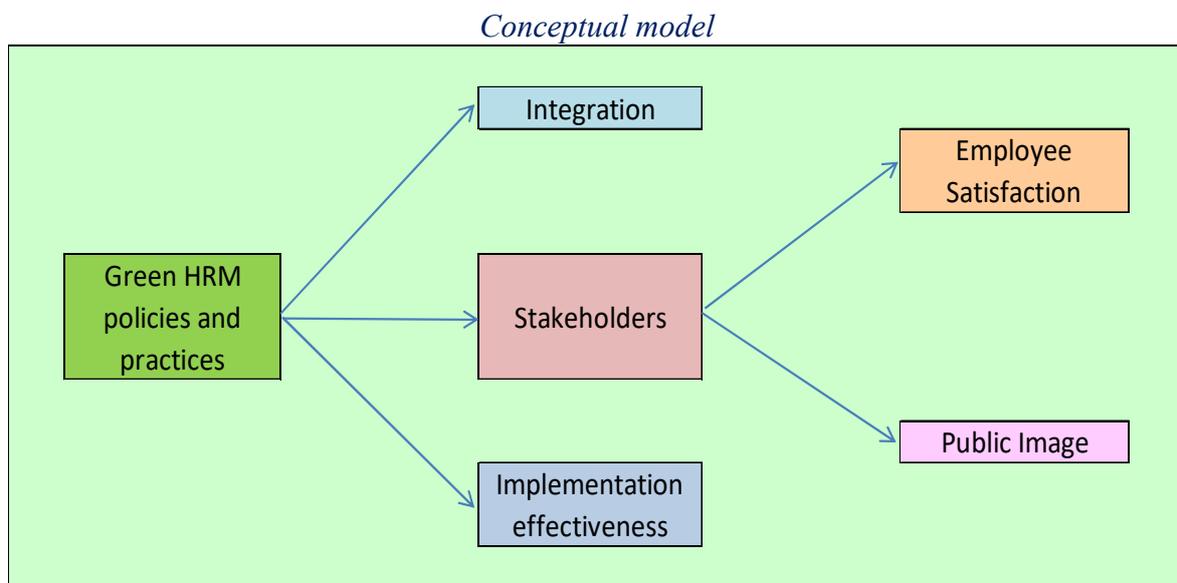
Conceptual model

Figure 3:Conceptual model for the research

Scheme formed for testing of hypotheses

1. Three questionnaires were prepared and administered to 40 Senior/HR managers, employees, and the general public to test the hypotheses.
2. A linkage was kept between the questionnaires sought from the three categories of respondents based on company control code. If 5 Senior managers from Company A responded, it was ensured that five employees from the same company A also responded to the employee questionnaire, and five responses for the same company A were also obtained from the general public.
3. Responses were sought on a 5-point Likert Scale.
4. The responses for each of the sections were averaged for the ten questions in that section.
5. While averaging, weights of 0, 1, 2, 3, and 4 were applied to the number of responses for each of the scales, and a weighted average was calculated and taken as the sample means.
6. For testing hypotheses 1 & 2, p-values were calculated, and the null hypotheses were checked for rejection or non-rejection by way of a t-test. These calculations were done at a 95% confidence level. The sample means were compared with hypothesized population means taken at the mid-

point of the scales connoting an event possible by chance.
7. For testing Hypotheses 3 & 4, regression analysis was used. The dependent variables were Employee Satisfaction and Public Image, and the independent variable was the Implementation of Green HRM practices.
8. Ho's rejection would indicate that the sample has statistically significant characteristics and are not by chance.

4. Data analysis and interpretation
Descriptive analysis (profile features)
Senior/HR Managers

A total of 40 Senior/HR managers were surveyed from 17 firms. Twenty-four were from the IT industry, 11 were from ITES, and five were from KPO/BPO. Out of the 40, 33 were male, while seven were female. Eight belonged to HR, while 32 were from General Management. In terms of the organization's standing, no firms were <5 years old, 11 were in the range of 5-10 years, and 29 were >10 years old. In terms of experience, 11 respondents were with < 10-year experience, 12 were from the 10-15 years of experience, and 17 had >15 years of experience. In terms of employee strength, 19 respondents worked for firms with <100 employees, and 21 worked for firms with 500-1000 employees. In terms of size of the firm, five respondents were working for firms with <100 crores size and 20 were

working for firms with 100-500 crore size while ten were from a >500 crores size.

Employees

A total of 40 Employees (from the same 17 companies) were surveyed. Twenty-four were from the IT industry, 11 were from ITES, and five were from KPO/BPO. Out of the 40, 13 were male while 27 were female. Sixteen belonged to the technical domain, while 24 were from other administrative departments. In terms of the organization's standing, no firms were <5 years old, 11 were in the range of 5-10 years, and 29 were >10 years old. In terms of experience, 18 respondents were with <5 years of experience, 12 were with 5-10 years of experience, and 20 had >10 years of experience. In terms of employee strength, 19 respondents worked for firms with <100 employees, and 21 worked for firms with 500-1000 employees. In terms of size of the firm, five respondents were working for firms with <100 crores size and 20 were working for firms with 100-500 crore size while ten were from a >500 crores size.

General Public

A total of 40 General Public were surveyed. Out of the total 40, in terms of gender, 23 were male while 17 were female. Fifteen respondents were <30 years of age, 9 were 30-40 years of age, and 16 were >40 years of age. In terms of education, 26 were graduate, seven were postgraduate, and seven were professional. In terms of occupation, 8 were homemakers, 19 were working professionals, while 13 were self-employed. Out of the total 40 respondents, five resided in Pune for <5 years, 19 were residing in Pune for 5-10 years, and 16 were residing in Pune for >10 years.

Inferential analysis (Testing of hypotheses at 95% confidence level)

Hypothesis 1

Ho1: There is no significant integration of the company's environmental practices and Green HRM policies
Ha1: There is a significant integration of the company's environmental practices and Green HRM policies

Responses for ten statements related to "Integration measures" were rated in terms of effectiveness on the scale of 0-Can't say, 1-Least effective, 2-Somewhat effective, 3-Quite effective, 4-Highly effective, in the context of Green HRM Practices were obtained from the senior and managerial level, 40 respondents. The sample mean was compared with the hypothesized population mean of "2," which is the mid-point $((0+1+2+3+4)=10/5=2)$ of the scales connoting an event possible by chance.

These ten statements and their average ratings were as under:

Table 3: Ratings for section I and testing of H1

1.	Employee diversity	2.10
2.	Collective Bargaining Agreements	2.00
3.	Occupational Health and Safety	2.10
4.	Trainings conducted	2.10
5.	Energy	2.13
6.	Emissions	2.15
7.	Renewables	2.00
8.	Water	2.10
9.	Waste	2.03
10.	Employee travel	2.05
Average		2.08
SD (Standard Deviation)		1.12
H1 (Hypothesized mean of population)		2.00
Ho (Sample mean)		2.08
n (Sample Size)		40
t-value		0.42
p-value		0.337006

As the p-value >0.05, the null hypothesis, there is no effective integration of the company's environmental practices, and Green HRM policies could not be rejected.

Hypothesis 2

Ho2: There is no effective implementation of Green HRM policies
Ha2: There is a practical implementation of Green HRM policies

Responses for ten statements related to "Implementation measures" were rated in terms of effectiveness on the scale of 0-Can't say, 1-Least effective, 2-Somewhat effective, 3-Quite

effective, 4-Highly effective, in the context of Green HRM Practices were obtained from the senior and managerial level, 40 respondents.

These ten statements and their average ratings were as under:

Table 4: Ratings for section II and testing of H2

1. Green printing	2.18
2. Teleconferencing and virtual interviews	2.13
3. Recycling	2.15
4. Online training	2.10
5. Lower carbon footprint	2.08
6. Green payroll	1.88
7. Car pooling	2.18
8. Company transport	1.90
9. Flexi-work	1.90
10. Job sharing	2.20
Average	2.07
SD (Standard Deviation)	1.12
H1 (Hypothesized mean of population)	2.00
Ho (Sample mean)	2.07
n (Sample Size)	40
t-value	0.38
p-value	0.352671

As the p-value >0.05, the null hypothesis, there is no effective implementation of Green HRM policies could not be rejected.

Hypothesis 3

Ho3: There is no significant relationship between Green HRM practices with employee satisfaction

Ha3: There is a significant relationship between Green HRM practices with employee satisfaction

The hypothesis was tested by regression analysis with Employee satisfaction (ES) as the dependent variable and implementation of Green HRM practices (GI) as the independent variable.

Responses for ten statements related to Employee satisfaction (ES) measured in terms of Agreement/disagreement, on a scale of 0-Cannot say, 1-Least Satisfied, 2-Somewhat satisfied, 3-Quite satisfied, 4-Highly satisfied, in the context of Green HRM Practices were obtained from the 40 employee respondents.

These ten statements and their satisfaction ratings were as under:

Table 5: Ratings for employee satisfaction

1. Enjoy company's culture	2.10
2. Feel connected to company's goals	2.08
3. Aware about Green HRM objectives	1.88
4. Company management is open to change	2.18
5. Feel that management is transparent	1.90
6. Managers value your feedback	2.20
7. Managers care for your suggestions	2.20
8. You are adequately rewarded for your contribution	2.30
9. You feel proud about environment efforts	2.30
10. You consider Green HRM practices equally important as your work	2.13
Average	2.13

Regression analysis was done taking Employee Satisfaction (ES) as the dependent variable and Green Implementation ratings as an independent variable. The results are summarized below.

Summary statistics (Quantitative data):

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Avg.ES	40	0	40	1.200	3.500	2.128	0.709

Goodness of fit statistics (Avg.ES):

Observations	40
Sum of weights	40
DF	22
R²	0.954
Adjusted R²	0.919
MSE	0.041
RMSE	0.202
MAPE	5.961
DW	2.354
Cp	18.000
AIC	-115.836
SBC	-85.436
PC	0.121

Analysis of variance (Avg.ES):

Source	DF	Sum of squares	Mean squares	F	Pr> F
Model	17	18.721	1.101	26.964	**<0.0001**
Error	22	0.899	0.041		
Corrected Total	39	19.620			

Interpretation (Avg.ES):

Given the R^2, 95% of the variability of the dependent variable Avg.ES is explained by the explanatory variable. Given the p-value of the F statistic computed in the ANOVA table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than what a basic mean would bring.

Figure: Means(Avg.ES) - Avg. GI

Means(Avg.ES) - Avg. GI
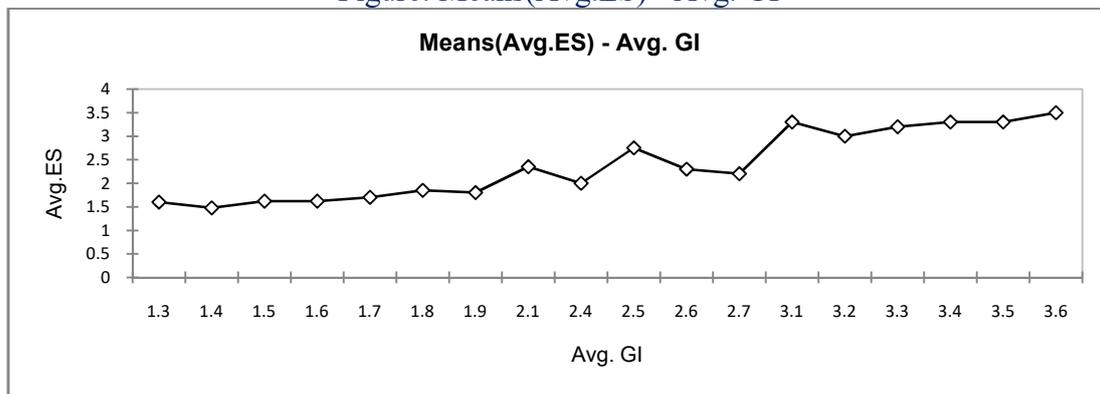
Hypothesis 4

Ho4: There is no relationship between the implementation of Green HRM practices and the public image

Ha4: There is a relationship between the implementation of Green HRM practices and the public image

The hypothesis was tested by regression analysis with Public Image (PI) as the dependent variable and implementation of Green HRM practices (GI) as the independent variable.

Responses for ten statements related to Public Image (PI)measured on a scale of 0-Cannot say, 1-Least positive image, 2-Somewhat image, 3- Positive image, 4- High positive image, in the context of Green HRM Practices were obtained from the 40 respondents.

These ten statements and their satisfaction ratings were as under:

Table 6: Ratings for public image

1. You have heard about this company	2.25
2. You have heard about any awards this co has won	2.10
3. You perceive this company as good	2.15
4. You have heard about Green HRM /environment commitment	1.98
5. You have read in newspaper/online about Green practices	1.88
6. You are aware that the company cares about environment	2.05
7. You have high esteem about friends/relatives working for this company	2.30
8. You would want your relative and friends to work for this company	2.10
9. You feel that this company stands out versus others in the industry	2.03
10. You have heard about the company's CEO and respect his leadership	2.15
Average	2.10

Regression analysis was done taking Public Image (PI) as the dependent variable and Green Implementation ratings as an independent variable. The results are summarized below.

Summary statistics (Quantitative data):

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Avg.PI	40	0	40	1.200	3.600	2.098	0.713

Goodness of fit statistics (Avg.PI):

Observations	40
Sum of weights	40
DF	22
R²	0.944
Adjusted R²	0.901
MSE	0.051
RMSE	0.225
MAPE	6.364
DW	1.695
Cp	18.000
AIC	-107.333
SBC	-76.933
PC	0.148

Analysis of variance (Avg.PI):

Source	DF	Sum of squares	Mean squares	F	Pr> F
Model	17	18.698	1.100	21.774	**<0.0001**
Error	22	1.111	0.051		
Corrected Total	39	19.810			

Interpretation (Avg.PI):
Given the R^2, 94% of the variability of the dependent variable Avg.ES is explained by the explanatory variable. Given the p-value of the F statistic computed in the ANOVA table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than what a basic mean would bring.

Figure: Means(Avg.PI) - Avg. GI
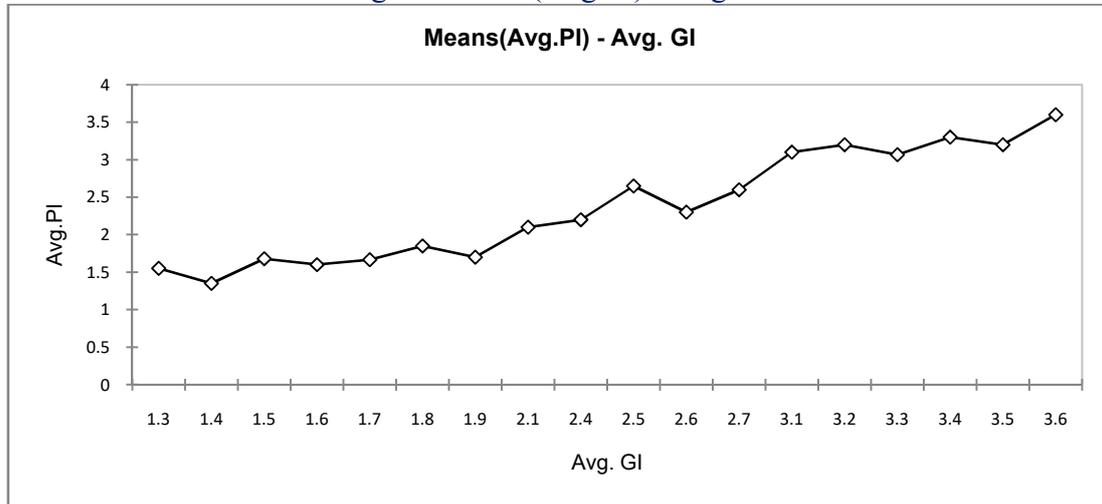
Summary of inferential analysis

Summary of the testing of all the four hypotheses along with their interpretation is given below:

Table 7: Summary of inferential analysis

Sr. No.	Null Hypotheses	Parameter and values	Decision	Interpretation
1	here is no significant integration of the company's environmental practices and Green HRM policies.	Average effectiveness for integration 2.08; p-value 0.3370	Could not reject Null	There is no significant integration of the company's environmental practices and Green HRM policies.
2	There is no effective implementation of Green HRM policies.	Average effectiveness for implementation 2.07; p-value 0.3526	Could not reject Null	There is no effective implementation of Green HRM policies.
3	There is no significant relationship of Green HRM practices with employee satisfaction.	R^2 95% with p-value <0.0001	Reject Null	There is a significant relationship of Green HRM practices with employee satisfaction.
4	There is no relationship between implementation of Green HRM practices and the public image.	R^2 94% with p-value <0.0001	Reject Null	There is a relationship between implementation of Green HRM practices and the public image.

5. Key findings and conclusions

Data collection is possible with reasonable comfort if respondents are assured of confidentiality. Processing the data into variables required for inferential data analysis can be done. The hypotheses can be duly tested as per the research methodology—the questionnaire prepared for primary data collection tests well for reliability.

There is no significant integration of the company's environmental practices and Green HRM practices. For the 40 senior-level employee respondents, a weighted average 2.08 effectiveness rating was found with an SD of 1.12. When compared with a threshold level of 2, it failed to show statistical significance at a 95% confidence level. Moreover, there is no significant effective implementation of Green HRM practices. For the 40 senior-level employee respondents, a weighted average 2.07 effectiveness rating was found with an SD of 1.12. When compared with a threshold level of 2, it failed to show statistical significance at a 95% confidence level. Further, the implementation of Green HRM practices has a substantial impact on employee satisfaction, as indicated by an R^2 value of 95%, and the p-value was less than the threshold of 0.05.

Lastly, the implementation of Green HRM practices has a substantial impact on the public image, as indicated by an R^2 value of 94%, and the p-value was less than the threshold of 0.05. In conclusion, Green HRM practices are not effectively integrated with the environmental practices of companies. Further, the implementation of the Green HRM practices itself is not widely followed. At the same time, the impact of Green HRM on employee satisfaction and public image is vital. Hence healthy initiatives and actions are required from the IT companies to improve their Green HRM practices with general environmental policies. Equal rigor is required for the actual implementation effectiveness of the Green HRM practices. This will be beneficial for all the stakeholders, including the employees and the public at large.

References

1. Alzgool, M. (2019). Nexus between green HRM and green management towards fostering green values. Management Science Letters, 9(12), 2073-2082.
2. In, J. (2017). Introduction of a pilot study. Korean journal of anesthesiology, 70(6), 601.
3. Mousa, S. K., & Othman, M. (2020). The impact of green human resource management practices on sustainable performance in healthcare organisations: A conceptual framework. Journal of Cleaner Production, 243, 118595.
4. Sathya, C., &Krishanan, J. J. (2019). A Study On Green Hrm-An Recentresearch Trend In Hr Practices. Recent ReseaRch, 44.
5. Seigle. (2020). seigle reliability calcu - Google Search. Google.com. Retrieved 16 January 2020, from https://www.google.com/search?client=firefox-b-d&q=seigle+reliability+calcu.
6. Survey System. (2019). Sample Size Calculator - Confidence Level, Confidence Interval, Sample Size, Population Size, Relevant Population - Creative Research Systems. Surveysystem.com. Retrieved from https://www.surveysystem.com/sscalc.htm.
7. The Hindu. (2017). Pune, where panic reigns an IT campus. The Hindu. Retrieved 16 January 2020, from https://www.thehindu.com/business/Industry/pune-where-panic-reins-an-it-campus/article18591285.ece.
8. Yusoff, Y. M., Nejati, M., Kee, D. M. H., &Amran, A. (2020). Linking green human resource management practices to environmental performance in hotel industry. Global Business Review, 21(3), 663-680.