

Barriers to Implementation of Green Human Resource Management Practices in Pharmaceutical Companies: Evidence from Sikkim

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ABSTRACT

Environmental sustainability has emerged as a central concern for contemporary organizations to inspire them to integrate environmental responsibility into their core strategies. As a result, sustainability has evolved from a peripheral compliance issue to a strategic organizational priority to give birth to a mechanism called Green Human Resource Management (GHRM), which refers to the integration of environmental objectives into human resource policies and practices such as recruitment, training and development, performance appraisal, and reward systems. Despite growing interest in GHRM, empirical evidences indicate that many organizations struggle to translate green HR policies into effective practice. These challenges are amplified in the resource-intensive and hazardous waste generating production processes of pharmaceutical industry especially in the ecologically sensitive regions such as Sikkim, a Himalayan state characterized by fragile ecosystems and strong environmental priorities.

With the help of primary and secondary data the present descriptive and analytical research study intends to identify and examine the key barriers affecting the implementation of GHRM practices in pharmaceutical companies operating in Sikkim. With the purposive sampling technique primary data was collected from 254 respondents including 74 managers and 180 employees working in pharmaceutical companies in Sikkim. Data so collected are analyzed with the help of descriptive statistics, mean score analysis, and the Garrett Ranking Technique. The findings of the study reveal that the effective implementation of Green Human Resource Management practices in pharmaceutical companies is constrained by multiple interrelated barriers rooted from lack of top management commitment, inadequate green training and awareness, absence of formal and well-defined GHRM policies,

financial constraints, weak green reward and incentive systems, resistance to organizational change, and limited employee empowerment.

Keywords: *Green Human Resource Management; Implementation Barriers; Pharmaceutical Industry; Environmental Sustainability; Sikkim; Garrett Ranking Technique.*

1. INTRODUCTION

The environmental sustainability has risen as one of the top agenda in organisational discussions all over the world with the heightening ecological strains caused by the growth of industries, global warming, and depletion of resources. Business organisations are increasingly being put under pressure to be responsible by minimising the destruction of nature and at the same time achieve economic goals. The pharmaceutical industry is one of the areas that take a rather critical position among various industrial sectors because of using natural resources extensively, producing hazardous waste, and difficult manufacturing procedures that demand serious environmental concerns (Lozano et al., 2018). Due to these effects, sustainability is no longer an operation consideration; however, a strategic necessity that is integrated into the organisational systems and management activities.

According to recent research, the use of technological solutions and regulatory compliance may not suffice in safe keeping of ecological system in the long run. As a result, it has guided to pay attention to intrinsic managerial processes that determine the behaviour of employees and organisational culture. One of such mechanisms is the Green Human Resource Management (GHRM) which incorporates environmental goals into the mainstream human resource (HR) activities of recruitment process, training and development, performance management, and reward systems (Renwick et al., 2013). GHRM is important in ensuring that organisational sustainability objectives are converted into daily work activities by fostering the environmental awareness, accountability, and participation of employees (Arulrajah et al., 2015).

Relevance of GHRM is highly evident especially in environments related to high sensitivity and stringency like those in the pharmaceutical industry. Proper implementation of GHRM makes it easier to comply with environmental laws, enhance the efficiency of the work, and develop a workforce committed to sustainable operation. It is empirically proved that companies that commit to green HR practises have an improved environmental performance, better employee engagement, and greater corporate reputation (Dumont et al., 2017). Accordingly,

GHRM has become the subject of growing scholarly and managerial attention as a strategic tool that helps to harmonise human-capital management with ecological sustainability.

In India, pharmaceutical industry is a central economic activity comprising of the development of the country and the global healthcare supply chains. India is one of the biggest manufacturers and suppliers of pharmaceutical products, which makes the issues of environmental responsibility in the field of the manufacturing industry both national and global. The processes of the industry are maintained by a wide regulatory framework implying the environmental protection and pollution control laws that require a responsible ecological behaviour. However, the effectiveness of sustainability activities is largely dependent on how these laws are internalised in organisational policy and practise especially in the HR systems (Huang et al., 2022).

The introduction of GHRM presupposes increased salience in territories that are geographically and ecologically sensitive like Sikkim, a Himalayan state with its delicate ecosystem and strong levels of environmental ethos. The unique ecology of Sikkim requires greater environmental custodianship by the industry players living in the state. Drug companies in this area need to balance between environmental conservation and business productivity, compliance with government laws and regulations and competitive practises. In this context, GHRM is a commanding organisational model of incorporating sustainability into workforce administration and corporate culture.

Though, the conceptual salience of GHRM is widely recognised, its practical application is faced by a complex organisational process that cuts across a variety of functional and behavioural arenas. The effective implementation of GHRM needs clear policies, overall commitment by the leadership, adequate resources, employee awareness, and favourable organisational systems. HR policies have to be brought in line with environmental goals, the employees need to be encouraged and educated to practise green behaviours and performance monitors need to strengthen the environmentally responsible behaviours. Therefore, the success of GHRM is not only the product of organisational intent but equally the product of the practicality of operationalising practises in a particular industrial and regional context (Renwick et al., 2013).

The value of these dynamics of GHRM implementation is specifically relevant in the pharmaceutical industry where the risk associated with the environment and regulation is extremely high. The limitations of an organisation,

combined with the realities of organisational operations, represent a major factor that not only influences the extent to which green HR programmes are initiated but also the factors that drive their continuation; the perceptions of employees also play a central role in the process. A critical analysis of these aspects will provide precious information on the ways in which sustainability-based HR practises can be strengthened and institutionalised in organisations and, in particular, in ecologically attentive regions like Sikkim.

2. REVIEW OF LITERATURE

2.1 Conceptual Foundations of Green Human Resource Management

Green Human Resource Management (GHRM) is a combination of environmental management values to human resource policies and practices with a view of enhancing sustainable organisational behaviour (Wehrmeyer, 1996). In the body of previous studies, GHRM is a conceptual framework, which includes recruitment, training, performance management, and rewards systems that are in line with the environmental goals (Arulrajah et al., 2015; Renwick et al., 2013). Theoretical backgrounds of GHRM are mainly based on the resource-based view and ability-motivation-opportunity model, by focusing on employee potential as a factor that identifies sustainability performance.

2.2 Dimensions of Green Human Resource Management Practices

According to the literature, there are some dimensions of GHRM practises that are considered fundamental. Green recruitment and selection aim at attracting and employing workers who are environmentally aware and have values that are in line with organisational sustainability goals. Research indicates the more organisations integrate the environmental requirements into job descriptions and employer branding, the more chances of attracting environmentally conscious job seekers (Tang et al., 2018).

Another important aspect of GHRM is the aspect of green training and development. The objectives of such training programmes are to increase the awareness of the employees on environmental matters, regulatory issues, waste minimisation methods, and energy savings measures. Mandip (2012) supports this argument by asserting that continuous environmental training will enhance the commitment of employees to the sustainability and provide them with the necessary skills to execute the green projects made successful.

Green performance management and appraisal systems bring environmental criteria in performance evaluation process. These systems make the employees and

managers responsible to their eco-friendly roles. According to Renwick et al. (2008), the environmental performance when linked with appraisal systems reinforces the sustainable nature and indicates the organisational support of the green goals.

Green rewards and payment are a motivational factor, which encourages employees to participate in environmentally responsible behaviour. The rewards can be financial acknowledgment, career advancement or non-financial like more leave or recognition by the public. Experiments usually declare that the lack of proper green reward methods dilutes the motivation of the workers and impairs the sustainability of the GHRM programmes (Dumont et al., 2017).

2.3 GHRM and Organizational Sustainability Outcomes

A considerable amount of empirical research has been conducted to look at what the correlation between GHRM activities and organisational sustainability performance is. According to the previous research, the successful implementation of GHRM is associated with the increase of environmental performance, lower use of resources, and improved performance in terms of environmental regulation (Lozano et al., 2018).

Other than environmental related outcomes, GHRM has also been associated with favourable employee related outcomes to include job satisfaction, organisational commitment, and engagement. Organisational citizenship behaviour towards environment (OCBE) is one of the most researched behavioural implications of GHRM. OCBE can be defined as voluntary and discretionary conducts of the employees that add environmental protection mission beyond the formal job responsibilities (Nawangasari et al., 2021). Studies indicate that GHRM practises establish a conducive environment to attract the employees towards OCBE by promoting the feeling of environmental responsibility and organisational support (Silvester et al., 2019).

Also, research notes that organisations that have high GHRM tend to have reputational advantages, increased stakeholder trust, and greater employer branding. The above results also support the rationale of making sustainability part of HR systems instead of making environmental initiatives an insulated or marginal activity (Dumont et al., 2017).

2.4 Barriers to the Implementation of GHRM Practices

Although the advantages of GHRM are widely reported, academic research has realised that the process of adopting the GHRM practises is complex and arduous. The obstacles to implementation can be organisational, managerial and employee

related. The barriers that are often encountered by organisations are the lack of commitment by the top-management, inadequate financial allocation and non-formalisation of the green HR policies (Renwick et al., 2013).

It is unwise to expect GHRM initiatives to become symbolic or disjointed without effective leadership. Managerial obstacles have often associated with the lack of awareness about GHRM concepts, experience in green HR system design, and short-lived performance demands. Environmental initiatives can be seen by managers as expensive or an indirect goal to be achieved after the functioning goals and this perspective restricts their readiness to invest in GHRM actions (Lozano et al., 2018). These are some of the perceptions that are found mostly in highly competitive industries where cost efficiency and productivity are given importance.

The client-level obstacles are a low level of environmental awareness, poor motivation, and lack of empowerment to take part in green activities. According to Mandip (2012), employees do not tend to embrace the green behaviours, especially when they lack organisational affirmation or cement benefits. In addition to this, the culture of not embracing change and sticking to old work habits may become another obstacle that impedes the implementation of the environmentally responsible practises.

There are also regulatory and institutional dynamics that affect the GHRM implementation. Environmental regulations in most of the developing economies tend to focus on compliance and not proactive sustainability which results in organisations moving towards a minimum-standard approach. Such a compliance-normative way of thinking can hinder the companies to adopt an environmental goal to HR systems in a holistic way (Huang et al., 2022).

2.5 GHRM in the Pharmaceutical Industry Context

Pharmaceutical industry gives a particular background of exploring GHRM practises because of the high environmental characteristics and the strict regulatory conditions. The production of pharmaceutical is characterised by the utilisation of toxic substances, production of dangerous quarrels, and the excessive use of water and energy. Consequently, sustainability efforts in this industry are not only welcomed but needed in an effort to curb the environmental and social hazards.

Previous research indicates that pharmaceutical companies encounter other problems when pursuing GHRM as a result of restraint quality-control requirements, pressure to act in line with regulations and expensive production cycles. When implementing the environmental objectives in the HR practises, it is necessary to

balance between the benefits of sustainability and operational efficiency, as well as regulatory requirements.

According to scholars, GHRM may be used as a strategic instrument in such environments to make employee behaviour aligned to the objectives of the environment and adherence at the same time (Thakur & Mangla, 2019). Nevertheless, there is scanty empirical research on the application of GHRM in the pharmaceutical industry especially in region specific situations. The majority of research is concentrated in large manufacturing agglomerations or multinational companies and smaller areas or areas with a high level of geographical sensitivity are underrepresented.

2.6 Regional Context and Environmental Sensitivity

The issue of regional context influences organisational sustainability practises to a large extent. Industrial organisations are also expected to practise environmental responsibility that is placed on them by ecologically sensitive regions. The introspection of such organisations by regulators, communities and the civil society groups further amplifies the need to scrutinise internal sustainability programmes like GHRM. Studies have indicated that environmental issues which are regional in nature have an effect on the design and execution of green practises. When organisations relate to and implement GHRM initiatives, factors like infrastructure conditions, workforce qualities, and local environmental concerns can influence them (Lozano et al., 2018). These influences are contextual and understanding them is crucial in providing effective and locally specific sustainability strategies.

3. RESEARCH GAP

The summary of literature that has been reviewed proves that Green Human Resource Management (GHRM) is a tool that has undergone intense scrutiny as a strategic tool in the promotion of organisational sustainability, improved environmental performance, and pro-environmental employee behaviour. The previous researches have majorly focused on the conceptual frameworks, the application of discrete green HR practises, and the consequent effects of such practises on employees- commitment, the firm-environmental performance, and Organisational Citizenship Behaviour towards Environment (OCBE). However, there remain a number of substantive loopholes especially when it comes to sector and region-specific contexts.

To begin with, despite the existence of several studies that appreciate the obstacles related to GHRM implementation, empirical studies that analytically

explore the challenges of effective GHRM implementation are few. Most of the available literature highlights the advantages and the results of GHRM instead of limitations that inhibit its successful application. As a result, there is insufficient empirical knowledge on how the process of institution of GHRM practises is hindered by organisational, managerial, operational and employee related constraints.

Second, the pharmaceutical industry context has not been researched much in GHRM studies. Considering the high environmental footprint of the sector, highly regulated business environment and multifaceted business operations, the challenges associated with the adoption of GHRM are bound to be also quite different compared with those faced in manufacturing or service industries. The literature alone has focused on general manufacturing industries or multinational companies and have thus not paid much attention to pharmaceutical companies especially those in environmentally sensitive areas.

Third, there is a strong regional lack of research particularly in geographically limited and ecologically vulnerable regions like Sikkim, India. Although there is overall agreement that Sikkim is an environmentally conscious and sustainability-driven region, empirical research on the issue has been limited on whether organisations in the state of Sikkim are able to cope with green HR initiatives. The special socio-environmental and infrastructural peculiarities of the area require the context-specific approach which the literature at hand has not dealt with well enough.

Fourth, the existing body of literature has followed methods mostly using regression based or structural equation models to test the cause-and-effect relationship, however minimal use of ranking the barriers to implementation in the perceptions of the stakeholders was observed. Lacking the ranking empirical evidence limits practical decision making since organisations are unable to understand what barriers require a managerial and policy level intervention.

Last but not the least, limited attention has been drawn to management level views during the identification of GHRM barriers. Most studies substantially depend on the perception of employees, thus overlooking the constraints of strategies and policies that are strategists and policy based and thus elucidated by managerial insight.

In this regard, by filling these gaps, the current study empirically examines and prioritises the barriers to the implementation of GHRM in the pharmaceutical

companies and operating within the context of Sikkim, using descriptive statistics, quantitative analysis, and the Garrett Ranking Technique, therefore, adding context-specific and practise-oriented insights to the current GHRM literature.

4. OBJECTIVES AND SCOPE OF THE STUDY

The main aim of this research is to review the obstacles that hinder effective deployment of Green Human Resource Management (GHRM) practises in the pharmaceutical firms. Consistent with this general purpose, the research objectives will be the following:

- to identify and examine the key barriers affecting the implementation of Green Human Resource Management (GHRM) practices in pharmaceutical companies operating in Sikkim;
- to rank the identified barriers related to Green Human Resource Management (GHRM) implementation in pharmaceutical companies operating in Sikkim; and
- to provide recommendations to reduce barriers to Green Human Resource Management (GHRM) implementation.

The scope of the current investigation is limited to activities of pharmaceutical firms in Sikkim, India which is a region where there are an ecological sensitivity and a growing industrial activity. This paper aims at analysing the obstacles to the proper incorporation of the GHRM practises in this particular industry and geographical setting, including the views of the management and the employees that undertake human resource activities and environmental practises.

This study follows the quantitative approach and is limited with the analysis of primary data gathered through a structured questionnaire. The scope involves the key areas in GHRM such as the policy frameworks, green recruitment, training and development, performance management and reward systems. The results are also supposed to be context specific and are not supposed to be generalised out of the pharmaceutical industry or the Sikkim region.

5. RESEARCH METHODOLOGY

5.1 Research Design

The research design followed is descriptive and analytical, which enables the study to critically examine the barriers to the successful implementation of GHRM practices within the pharmaceutical companies. Quantitative research method was used to capture in a systematic manner the perceptions of the respondents about

operational, organisational, and behavioural constraints related to the GHRM implementation. This is considered suitable because it allows objective measurement, comparison and prioritisation of various barriers that affect the conduct of green HR practises in organisations.

5.2 Study Area and Population

This research was carried out in the pharmaceutical firms within the state of Sikkim, India which is an area marked by sensitivity to ecology and a flourishing industrialization. The target population was employees and management staff working with pharmaceutical companies in specific cases those were involved in human resource activities, operational management, and environmental efforts.

5.3 Sampling Size and Sampling Technique

The total sample size comprised 254 respondents, categorized as follows:

TABLE 1: Broad Categorisation of Sample (n = 254)

Respondent Category	Sample Size
Managers	74
Employees	180
Total	254

Source: Researchers' own calculations and computation based on field study

The respondents consisted of HR managers, line managers, supervisors, and employees who had enough knowledge regarding organisational policies and environment practises. The purposive sampling method was applied to make sure that the respondents possessed relevant exposure to HR practises and sustainability programmes in their organisations.

The sample used was deemed sufficient by a quantitative analysis involving descriptive and ranking and conforms to similar empirical research in the area of GHRM and organisational sustainability.

5.4 Data Source and Data Collection

Primary data is used in the study, as the data were gathered by applying a structured questionnaire to individuals at the management level, as well as employees. The questionnaire is developed after having thoroughly examined the available literature on GHRM and environmental management practises and customised it according to the pharmaceutical industry and the specific nature of the region Sikkim.

It included several parts in the questionnaire like regulatory frameworks, green practises, green recruitment and selection, green training and development,

green performance management and appraisal, green reward system, environmental commitment, environmental orientation, environmental empowerment, and Organisational Citizenship Behaviour towards Environment (OCBE). The answers were recorded on a five-point Likert scale, where Strongly Disagree (1) and Strongly Agree (5) were taken as the extreme responses.

5.5 Measurement of Variables

Past research on Green Human Resource Management (GHRM) has also indicated that there has been an ongoing inconsistency between the development of green HR policy and their actual enforcement in organisations. Most companies use the policy of GHRM, but this programme does not always result in ongoing practices because of structural, managerial, and behavioural limitations (Arulrajah et al. 2015; Renwick et al., 2013). The recent empirical findings further indicate that the low success of GHRM initiatives can be significantly linked to the open implementation barriers, and not the lack of policies. Bishnu and Ghosh (2025) note that there is a longstanding discrepancy between the stated policies on green HR and actual policy practices in the pharmaceutical industry of Sikkim.

Against this policy practice gap, the current research is aimed at determining and adding operationalisation of the major barriers that cripple the successful execution of GHRM practices within pharmaceutical organisations. Constraints related to implementation across various dimensions of GHRM were thus measured using the questionnaire items. The barrier variables had to be organized in a conceptually consistent and analytically rigour way, i.e. aligned with a set of well-known GHRM constructs documented in previous literature and giving similar homogeneous results in terms of reliability, mean score and ranking analysis. The barriers were broadly categorized into:

TABLE 2: Measurement Variables

Construct	Indicative Statements Used	Source
Regulatory & Policy Framework	Existence of formal Green HRM policies; compliance with environmental regulations; EIA integration	Renwick et al. (2013); Arulrajah et al. (2015)
Green Practices	E-documentation; energy efficiency; waste management; water conservation	Lozano et al. (2018); Thakur & Mangla (2019)
Green Recruitment & Selection	Environmental criteria in hiring; preference for eco-conscious candidates	Tang et al. (2018)

Green Training & Development	Environmental training programs; induction-based green orientation	Mandip (2012); DuBois et al. (2013)
Green Performance Management	Environmental KPIs in appraisal systems	Renwick et al. (2008)
Green Rewards	Incentives and recognition for green behaviour	Dumont et al. (2017)
Environmental Commitment	Emotional attachment to environmental goals	Nawangarsi et al. (2021)

Note: All statements were measured on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). Higher mean scores on these items were interpreted as indicating stronger perceived barriers to the implementation of GHRM practices.

5.6 Tools and Techniques of Data Analysis

The data gathered were put under analytic procedure that included descriptive statistics, quantitative evaluation, and the Garrett Ranking Technique and thus provided depth and descriptive clear in the interpretation.

Descriptive Statistics

Frequency, percentages, mean and standard deviation were used as descriptive statistical tools in summarising the demographic profiles of respondents and also in assessing general perceptions on different barriers to GHRM implementation.

Quantitative Analysis

An analysis of mean scores was used to determine how much the respondents agreed or disagreed with the statements concerning the GHRM practises. This allowed comparison between various dimensions of barriers and found aspects where challenges of implementation were more noticeable.

Garrett Ranking Technique

To prioritise the listed barriers, the Garrett Ranking Technique was used. The respondents were required to rate the preferred barriers in terms of severity. The Garrett scores were obtained through the following formula:

$$\text{Percent Position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

where R_{ij} represents the rank given to the i th factor by the j th respondent and N_j represents the total number of factors ranked by the j th respondent.

The percent positions were translated into Garrett scores through normal conversion tables and the average Garrett score of every barrier was determined. Barriers were then prioritised based on the mean scores and the higher the score the more critical the barrier is.

5.7 Reliability and Validity of the Instrument

The questionnaire content was made to be as valid as possible given that it was developed by conducting a thorough and comprehensive literature review and consulting specialists in the areas of human resource management and environmental sustainability. The items were in contextualisation to the pharmaceutical sector, which is based on the dimensions of established GHRM.

The Cronbach coefficient was used to test the internal consistency of the questionnaire. The value of reliability of the significant constructs was above 0.70, which is the acceptable reliability level and consistency of the measuring tool.

6. RESULTS AND ANALYSIS

This section gives the general findings of the research using primary data gathered on 254 respondents who were involved in pharmaceutical companies which are operating in Sikkim, India. Descriptive statistics, reliability analysis, mean score analysis, and Garrett Ranking Technique were used in analysing the data to pinpoint and rank the barriers to the successful implementation of the Green Human Resource Management (GHRM) practises.

6.1 Demographic Profile of Respondents

Descriptive statistics were employed to understand the demographic characteristics of the respondents. The profile indicates that the respondents possess sufficient professional experience and exposure to organizational practices, ensuring informed responses.

TABLE 3: Demographic Profile of Respondents (n = 254)

Demographic Variable	Category	Managers (n = 74)	Employees (n = 180)	Total
Gender	Male	48 (64.9%)	110 (61.1%)	158
	Female	24 (32.4%)	66 (36.7%)	90
	Others	2 (2.7%)	4 (2.2%)	6
Age Group	18–25 years	2 (2.7%)	32 (17.8%)	34

	26–35 years	18 (24.3%)	64 (35.6%)	82
	36–45 years	28 (37.8%)	48 (26.7%)	76
	46–55 years	20 (27.0%)	26 (14.4%)	46
	56–65 years	6 (8.1%)	10 (5.6%)	16
Work Experience	< 5 years	6 (8.1%)	62 (34.4%)	68
	5–10 years	22 (29.7%)	69 (38.3%)	91
	> 10 years	46 (62.2%)	49 (27.3%)	95

Source: Researchers' own calculations and computation based on field study

The profile indicates that managerial respondents are predominantly more experienced and belong to higher age groups, while employees are relatively younger with shorter tenure. This distinction supports meaningful comparison of perceptions regarding GHRM implementation barriers across hierarchical levels.

6.2 Reliability Analysis

Cronbach alpha was used to evaluate the internal consistency of the questionnaire on the key constructs used to determine barriers to the implementation of GHRM. The analysis also ensured that the items included in each construct measured the same underlying concept with a great deal of dependability.

TABLE 4: Reliability Statistics of Major Constructs (n = 254)

Construct	No. of Items	Cronbach's Alpha
Regulatory & Policy Framework	20	0.84
Green Practices	39	0.88
Green Recruitment & Selection	8	0.81
Green Training & Development	7	0.86
Green Performance Management	4	0.79
Green Rewards	9	0.83
Environmental Commitment	8	0.87

Source: Researchers' own calculations and computation based on field study

The Cronbach alpha values were all high with all values above the recommended value of 0.70, which means that the items used had high internal consistency and that further use of the measurement instrument could be used in the statistics analysis.

6.3 Mean Score Analysis of GHRM Barriers

Mean and standard deviation values were computed individually among the managers (n=74) and employees (n=180) in all set dimensions of barrier. High mean scores are discussed as the better convergent agreement that the corresponding dimension works as a hindrance to Green Human Resource Management (GHRM) implementation.

TABLE 5: Mean and Standard Deviation of all GHRM Barrier Dimensions (n = 254)

Barrier Dimension	Managers		Employees	
	Mean	SD	Mean	SD
Regulatory & Policy Framework	4.15	0.71	4.04	0.81
Green Practices	3.64	0.82	3.75	0.84
Green Recruitment & Selection	3.58	0.86	3.68	0.90
Green Training & Development	4.31	0.65	4.14	0.79
Green Performance Management	4.02	0.77	3.87	0.83
Green Rewards	3.95	0.80	3.83	0.89
Environmental Commitment	3.71	0.83	3.82	0.85

Source: Researchers' own calculations and computation based on field study

The mean-score analysis provides an in-depth evaluation of perceptions of the managers and employees to different dimensions as barriers to the implementation of GHRM practises. Results show that the mean values of the two categories of respondents (Managers: 4.31; Employees: 4.14) are the greatest when it comes to Green Training & Development, which implies that the lack of environmental training, less awareness-building programmes, and insufficient skill development may be seen as the greatest barriers to successful GHRM execution. This indicates a disruption in competencies in pharmaceutical organisations, whereby employees might not be having the necessary competencies to crossover green policies to practise. The dimension of Regulatory & Policy Framework also discloses rather high scores of means (Managers: 4.15; Employees: 4.04), meaning that structural and institutional factors, including the lack of clearly defined green HR policies, weak enforcement system, or poorly integrated regulation are significant barriers. These findings suggest that the environment regulations might be external, but inside the HR systems they are not entirely institutionalised.

The mean scores of Green Performance Management and Green Rewards are moderate and high respectively, especially among the managers. This highlights issues which are related to poor usage of environmental criteria in appraisal systems

and the lack of incentive systems that would provide motivation towards green behaviour. These strategic alignment problems seem to come out stronger among managers compared to employees probably because they are the ones who have direct roles in matters of performance reviewing and policies implementation. Green Practises, Green Recruitment and Selection, and Environmental commitment, in their turn, demonstrate relatively lower means, and operation practises and attitudinal aspects, although still relevant, do not seem to be viewed as key impediments. It is interesting to note that employees have expressed lower means compared to managers in the operational and cultural dimension that are based on their closer interactions with the day-to-day implementation challenges.

The mean-score analysis shows that the prevalence of capability-based and structural barriers over operational and behavioural ones are dominant. The fact that high mean scores are consistent across all the two groups of respondents supports the fact that these issues are systemic and should be ranked higher in further ranking analyses.

6.4 Selection of Major Barriers for Garrett Ranking

After the mean-score analysis, there was a straightforward criterion on the inclusion of the barrier dimensions in the Garrett ranking exercise. A mean score of above 3.00 on a five-point Likert scale means, on average, that the respondents see the dimension as a hindrance but not a neutral or an antagonistic opinion. Based on this, barrier dimensions where the mean equals 3.00 or more would be considered eligible in the process of the Garrett Ranking Technique because of prioritisation.

Since the mean scores obtained in the seven measured dimensions in the cases of the managers and the employees exceed this value, the dimension was included in the ranking analysis. Such a comprehensive representation is ensured by a broad approach where every constructs under study are represented, and none of the dimensions of barriers is selectively excluded. All the dimensions included thus enhance methodological transparency and make it possible to prioritise the barriers to GHRM implementation entirely across the levels.

6.5 Garrett Ranking Analysis of Major GHRM Barriers

Garrett Ranking Technique was used to rank the dimensions of GHRM barriers identified according to the perception of the respondents on how severe these dimensions are. The barriers were rated by the respondents by their significance; the scores were obtained as Garrett scores using conventional methods; and the average scores on Garrett as the final hierarchy were obtained. Managers and employees

were created as separate ranking to capture the variations of body on perceptions in hierarchical groups of categories.

TABLE 6: Garrett Ranking of Major Barriers (N = 254)

Barrier Dimension	Managers Rank	Employees Rank
Green Training & Development	I	I
Regulatory & Policy Framework	II	II
Green Performance Management	III	IV
Green Rewards	IV	V
Green Practices	V	III
Environmental Commitment	VI	VI
Green Recruitment & Selection	VII	VII

Source: Researchers' own calculations and computation based on field study

The results of ranking show that Green Training development and development are the most critical barriers both to the managers and employees. Such a steady top position reflects that weak environmental training, scarce awareness-creating programmes, and poor capability development are the most urgent barriers on the way of effective GHRM implementation among the pharmaceutical organisations.

The Regulatory and Policy Framework is placed second among either group and highlights structural and institutional limitations in integrating environmental goals during HR systems. This implies that, we can have regulatory expectations, but they have not been systematically incorporated in internal HR processes.

The differences between the two groups of respondents emerge in the intermediate rankings. The relative significance which is attributed to Green Performance Management and Green Rewards by the managers is related to the reasons of performance review mechanisms and rendering of incentives. In a managerial point of view, the lack of environmental standards in appraisal systems and the insufficiency of reward systems undermine the accountability and reduce motivation to green behaviour.

Green Practises are, however, most sensitive to the employees than the managers which is a sign that the employees are more sensitised to the elements of day-to-day implementation that include resource constraints, and infrastructural constraints. This variance indicates how closely the employees are to the implementation processes.

The least rated dimensions in both categories are the Environmental Commitment and Green Recruitment and Selection which indicates that the

attitudinal and entry-level aspects are viewed as less limiting than the structural and capability-based ones.

To conclude, the Garrett ranking discussion confirms the results of the mean-score analysis in the fact that the capability-related and structural barriers are prevalent compared to operational and attitudinal barriers. The consistency of the rankings among managers and employees supports the strong validity of the results and the systemic character of the challenges of GHRM implementation in the pharmaceutical organisations.

7. CONCLUSION AND RECOMMENDATIONS

This study examined the barriers to successful adoption of Green Human Resource Management (GHRM) practises in the pharmaceutical companies that are in operation in Sikkim. By adopting the use of descriptive statistical analysis and the application of Garrett Ranking Technique, and by making the comparison between managerial and employee views, the research was able to identify and rank the key limitations to institutionalising the green HR practises systematically. The results shift the focus away on the theoretical virtues of GHRM to the actual realities of implementation, hence, filling a major gap in the current body of literature.

The analysis found out that the capability-based and structural barriers were most warranted disparities to GHRM implementation. Both of the mean scores calculations and Garrett rankings always put Green Training & Development at the top of the obstacles among the respondent groups, and it is reasonable to infer that the lack of environmental education, the lack of skill development, and the lack of structured training models can significantly restrain implementation of the green policies into the working practise. Without reinforced employee expertise as well as knowledge, the GHRM initiatives will probably not move beyond token implementation.

The second barrier that is salient is the regulatory and policy framework, meaning that implementation of environmental objectives in the HR systems is still not fully internalised. The external environmental regulations may be in place, but they are seemingly not systematically incorporated in HR manuals, the systems of governance, and the accountability mechanisms, thus restricting the constant execution of the sustainability-oriented practises within HR.

The barriers of moderate levels include Green Performance Management and Green Rewards especially by the managerial point of view. These findings mean that environmental criteria are rather poorly integrated into the system of appraisal

and incentives. Without such mechanisms in the form of performance-related accountability and recognition, there might be grow limitation on employee motivation to act in environmentally responsible manner. The differences in the intermediate rankings between managers and employees also help shed more light on the differences in the perceptions: the former is oriented to the strategic alignment mechanisms including the appraisal and reward mechanisms, and the latter will show a much more intense concern with the operational constraints in the day-to-day implementation processes.

Subordinate dimensions such as Environmental Commitment and Green Recruitment and selection show that dimensions of attitudinal and entry-level aspects are not seen to be the main obstacle compared with the systemic and ability-based factors. Altogether, the analysis will show that the impediments to the implementation of GHRM are mostly institutional and capability based (as opposed to behavioural only).

Using the above results, some recommendations can be drawn. The pharmaceutical companies ought to focus on operating overall and long-term green training programmes that meet the industry-specific environmental needs. Green HR practises should be implemented using environmental awareness campaigns organised on a regular basis and with a focus on skills. At the same time, to strengthen the formalisation and implementation of green HR policies, organisations must incorporate clear green goals as part of HR systems, standard operating procedures and governance.

Moreover, the indicators of the environmental performance should be integrated into appraisal systems in an orderly manner and connected with proper reward mechanisms to make the performance accountable and motivational. Green behaviour can be strengthened by both financial and non-financial recognition system, which will send signals of organisational commitment to sustainability. There should also be improved communication between the leadership and operational employees in which the strategic sustainability targets are matched with day-to-day implementation practises. Taken together, these interventions can help the pharmaceutical organisations shift their focus away off policy making on to the good practises of GHRM. The study can provide a framework through the identification and prioritisation of implementation barriers across the hierarchies, upon which managerial and policy interventions on enhancing sustainability-oriented HR systems can be made. These results can add to the growing body of literature on GHRM because it highlights that the achievement of green HR

programmes cannot be reduced only to adoption of policies and proposed measures but to the ability to build a systematic capability, integrate it institutionally, and align it with success in organisational systems.

8. LIMITATIONS OF THE STUDY

The current research has some limitations even though it has contributed in some empirical ways. The research focuses on pharmaceutical firms in Sikkim, India, and this requires the study to be generalised to other regions or sectors of industries. The results are analysed using cross-sectional data and self-reported data, which are prone to respondent biasness. Also, the analysis is based on a quantitative method, future studies can include such a methodology as qualitative analysis or longitudinal studies to learn more about the dynamic character of the barriers to GHRM implementation.

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