

GREEN HUMAN RESOURCE MANAGEMENT IN MINING

Abstract

With the UNSDG goals 2030 timeline approaching fast, climate change and environmental degradation have gained importance in recent times in business reporting. Businesses in the mining and manufacturing sectors are at the core of ecological harm at all levels. These businesses, therefore, have a logical responsibility toward alleviating the ill effects of their operations. Pressure from buyers, suppliers and stakeholders is mounting to adopt a proactive approach toward environmental sustainability issues. Green Human Resource Management (GHRM) is a way for organizations to practice corporate social responsibility and is an outlet for practising green and sustainable environmental strategies. Studies on green HRM point to the significant effect on corporate performance and employee outcomes. This study investigates the green HRM practices and their outcomes at the employee level in Vedanta Ltd in Odisha. Vedanta Limited is a leading international player in mining aluminium and other non-ferrous metals. Vedanta also is a forerunner in sustainability efforts and has taken big strides already on all fronts.

Five-point Likert scale forced-choice questions were included in a questionnaire that was administered to 600 employees of Vedanta Limited in Jharsuguda and Lanjigarh in Odisha. The questionnaires collected data on the GHRM practices, job satisfaction and work meaningfulness. We used SPSS-AMOS to test the hypotheses on the relationships between GHRM, job satisfaction and job meaningfulness. Relationships between meaningfulness through work and job satisfaction and the mediating effect of meaningfulness of GHRM on job satisfaction was also established. The conceptual model of the interrelationship of GHRM, job satisfaction and meaningfulness through work can be extended to other industries as well.

Keywords : Green HRM, Job Satisfaction, Sustainability, CSR, Job Meaningfulness

Climate change, the gradual but continuous degradation of the environment due to human activity, is at the centre stage for quite some time. With the fast-approaching United Nations Sustainability Development Goals 2030 there is a renewed consciousness toward sustainable consumption and conservation of the environment and climate. Countries and industries have taken up the challenge to take steps toward making their operations socially responsible. Mining traditionally has been the most polluting activity which not only defaces the landform but also causes damage to forest cover, flora and fauna and also disturbs the groundwater table and is a major source of greenhouse gases due to its high use of fossil fuels as energy sources. Rapid industrialization has been at the core of the entire ecological imbalance and a sustained rise in global warming (Moscardo et al., 2013), therefore, businesses must play a key role in arresting the damage if not stopping it

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completely (Schaltegger and Burritt, 2010).

Businesses today are pushed by the stakeholders, investors and customers to incorporate a proactive approach toward environmental concerns to somehow alleviate the negative impact of industrial activity. Some businesses have already started disclosing the sustainability reports under their corporate social responsibility (CSR) reporting. Environmental conservation is one of the main planks of all CSR efforts and initiatives (Moscardo et al., 2013). CSR is a voluntary involvement of the companies to work towards the triple bottom line of social, environmental and economic concerns. Businesses must reorient to be socially and environmentally responsible and in this regard, the involvement of employees at all levels is important (Arora & Puranik, 2004). Therefore Green Human Resources Management (Green HRM) becomes the key to all CSR initiatives where the involvement of all the employees propels the companies to their shared vision of the CSR objectives. Green initiatives, environmental management practices and sustainability targets are possible and achievable only with green HRM. (Renwick et al., 2013). Green HRM can be defined as a set of HRM practices aimed to sustain and inculcate an outcome-based environmental management approach toward sustainability (Becker et al., 1998).

Much research has been conducted concerning the impact of green HRM on environmental sustainability (Dumont et al., 2017; Nejati et al., 2017; O'Donohue and Torugsa, 2016; Pham et al., 2019; Renwick et al., 2016; Yu et al., 2020) but the research falls short of explaining the rationale and the organizational outcomes of the Green HRM (Ahmed, 2015). A comprehensive study of the employee motivation and inducement towards the CSR goals is required to effectively design Green HRM which can have a higher probability of success. In the case of primary and core industries such as mining or oil industries which are dominated by global majors, sustainability practices and business ethics of the parent company are likely to be implemented in the host countries as well. An understanding of the Green HRM, therefore, becomes imperative. This study is aimed to study the effects of Green HRM on the employees of a global mining company operating in the non-ferrous metal sector in India.

Green HRM at any organization stems from the shared vision of the leadership that percolates down to the employees at all levels. These green employees can recognize and imbibe the focus on environmental conservation and sustainability as part of the organization's goals. Green HRM incorporates "green recruitment, green training and green performance management" at work in such responsible organizations (Yusoff et al., 2018). Such green HRM practices result in increased efficiencies, lower costs of employee engagement and retention. Green HRM practices foster improved environmental performance through an increased level of environmental awareness (Fayyazi et al., 2015). Organizational culture and leadership are key to the adoption of Green HRM practices. The first hypothesis is stated as follows:

H₁: Organizational culture directly affects the Green HRM practices.

Green HRM practices, besides improving the environmental response and responsibility of the organization also boost employee morale leading to increased job satisfaction. Employees evaluate their job satisfaction by the participation, recognition, pride, prestige and self-actualisation arising out of their job duties (Yusoff et al., 2018). Skill variety, task variety and autonomy and empowerment in the job form the essence of job satisfaction (Hackman and Oldham, 1976). Skill variety and task variety lead to meaningfulness at work and autonomy leads to a sense of responsibility at work which together result in overall job satisfaction for the employees. Green HRM practices of an organization aim at achieving the environmental goals by fostering an environmental culture and green employees are at the core of this process. Green HRM practices, therefore, comprise all the necessary ingredients of a satisfying and fulfilling job with skill variety, task variety and autonomy through appropriate Green HRM training programmes. When employees understand that their job and practices lead to recognition of their organization as an environmentally conscious and socially responsible organization by the stakeholders, they would be suitably motivated. Green HRM practices, therefore, affect employee job satisfaction. We propose our second hypothesis as follows:

H₂. Green HRM practices have a positive relationship with the job satisfaction of employees.

Human life revolves around the work-life of the individual and work often is viewed as a means that gives a purpose or meaningfulness to life. Hackman and Oldham (1975) define meaningful work as what the employee thinks of his job as being meaningful and worthwhile beyond being a means of earning a livelihood. CSR activities are by their nature designed to give meaningfulness to the job. Green HRM, therefore fosters meaningfulness in the job. We state our third hypothesis as follows:

H₃: Green HRM practices have a positive relationship with job meaningfulness.

By doing something which is not exactly the core of their work chart but adds to the satisfaction of giving back to society or helping to recover and recoup the environmental balance disturbed by the industrial activities of their employer, the employees get a definite sense of responsibility and satisfaction in his job. We state our fourth hypothesis as follows:

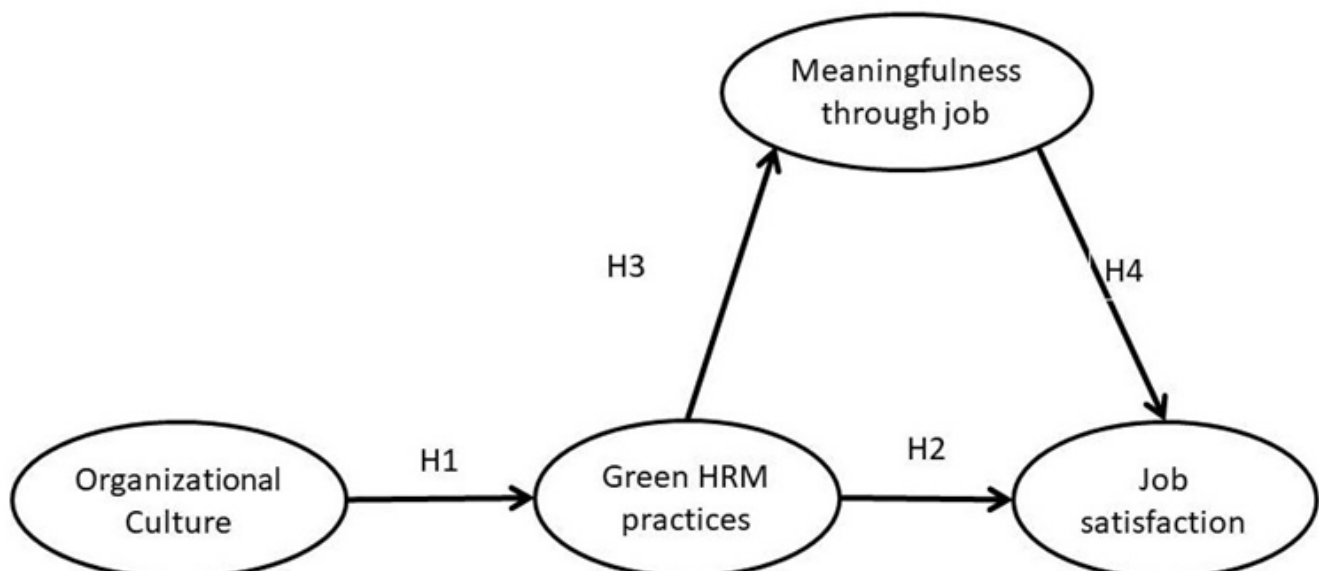
H₄: Green HRM practices have a mediating effect of job meaningfulness upon job satisfaction.

Methodology

Data and Sample

We selected Vedanta Aluminium in Odisha for studying the impact of green HRM on employee job satisfaction for two reasons. Among the private players in the mining sector Vedanta Ltd., part of Vedanta Resources plc. (UK) has been the forerunner of the triple bottom line approach of sustainability in economic, environmental and social domains. Secondly, Vedanta has put in place systems and policies which are in vogue for several years. Vedanta has been publishing sustainability reports (SR) and business responsibility reports (BRR) since 2013 and the policies are well ingrained in the organizational culture. We collected responses from the employees of Vedanta Ltd. at two operational locations of Jharsuguda and Lanjigarh in Odisha. Data from the employees was collected using structured questionnaires. Five-point Likert scale forced-choice type questions were included in a questionnaire that was distributed to 600 employees of Vedanta Limited. The questionnaires collected data on the GHRM practices, Job satisfaction and job meaningfulness. A total of 483 responses were received out of which only 427 (71.16%) were complete in all

Figure 1: Conceptual Model of the Study



respects and usable for our study. The data was coded into SPSS 23 and AMOS was used for factor analysis and for testing the hypotheses.

All the variables were tested for normality using skewness and kurtosis values. The Likert type data on five or more points can be taken as interval

data and also the data satisfies the test of independence. A test of multicollinearity was conducted by regressing each item in turn on others and the variance inflation index was calculated. The data passed the test of multicollinearity and could be used for both factor analysis and parametric testing.

Table 1 : Demographic Details of the Data Sample

Age of Respondent	30-35 years	84
	35-40 years	113
	40-45 years	108
	45-50 years	67
	>50 years	55
Length of Service	<5 years	96
	5-10 years	177
	10-15 years	81
	15-20 years	51
	>20 years	23
Educational Qualification	Below Graduate	87
	Graduate	213
	Post Graduate	95
	Other/Professional Degree	32

Source : Primery Data

Table 2: Item Loading Average Variance Extracted and Cronbach's Alpha

Variables	Item loading	AVE	Cronbach's Alpha
Green HRM			
My company provides a continuous training programme	0.89	0.79	0.73
Environmental training is a top priority in my organization	0.92		
My company views environmental training as an important investment.	0.87		
Every employee in my company must achieve environmental objectives	0.92		
Achievement in environmental programmes is a part of employee evaluation	0.90		
Performance on environmental parameters is financially rewarded	0.87		
Performance on environmental parameters is publicly recognised	0.85		
Job Satisfaction			
I find my job very satisfying	0.92	0.71	0.86
I do not plan to shift to another company	0.81		
I like my job very much	0.79		
Meaningfulness through work			
My work in the organization is very important to me	0.89	0.79	0.83
My work in the organization is meaningful to me	0.90		
I find my job activities very meaningful to me	0.88		

Source : Primery Data

Table 2 shows the item loadings, average variance extracted and Cronbach's alpha for the sample. Item loadings are all above the threshold of 0.70 and also the average variance extracted for the three factors clears the minimum cutoff of 0.5 (Hair et al., 2010). The data fit the model with an RMSEA of 0.09 and a standardised root mean square residuals score of 0.06 (Hair et al., 2010).

Figure 2: Structural Model

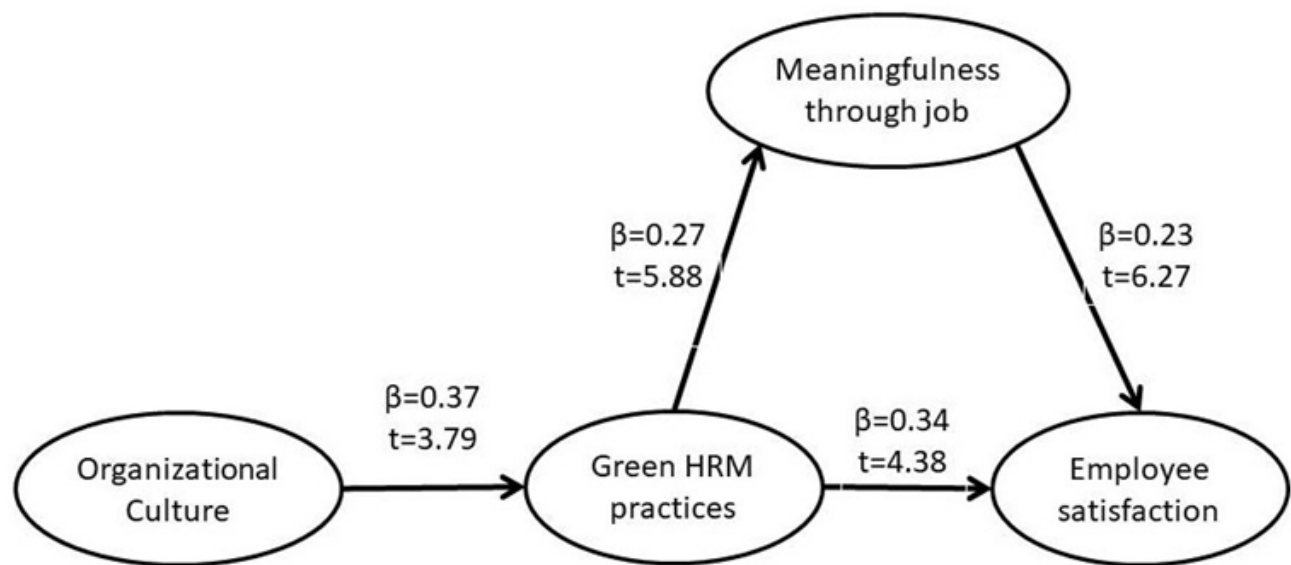


Table 3: Results of Hypothesis Testing

Hypothesis	Coefficient β	P-value	Result
H₁ : Organizational culture directly affects the Green HRM practices.	0.37	0.0000	Accepted
H₂ : Green HRM practices have a positive relationship with the job satisfaction of employees.	0.34	0.0000	Accepted
H₃ : Green HRM practices have a positive relationship with job meaningfulness.	0.27	0.0000	Accepted
H₄ : Green HRM practices have a mediating effect on job meaningfulness upon job satisfaction.	0.23	0.0000	Accepted

The hypothesis testing results reveal that Organizational culture is positively related to Green HRM practices ($\beta=0.37$, $t=3.79$, $p=0.0000$). Green HRM practices have a positive relationship with the job satisfaction of employees ($\beta=0.34$, $t=4.38$, $p=0.0000$). Green HRM has a positive relationship with job meaningfulness ($\beta=0.27$, $t=5.88$, $p=0.0000$). For testing the mediating role of job meaningfulness on job satisfaction we conducted Sobel's test (available at <http://quantpsy.org/sobel/sobel.htm>). The results of Sobel's test are presented in Table 4 below.

was found to be a mediating factor between green HRM and employee job satisfaction. The study found support for another study (Chan and Hawkins, 2010) that despite having been overloaded with additional environmental duties, the employees found better identification and found meaningfulness in their work as their organizations took more proactive environmental roles.

This study helps in understanding the role of green HRM and its relationship with the organizational environmental culture. The study reveals how green HRM affects job

Table 4 : Sobel's Test for Mediation

	Input	Test statistic	P value
Sobel's test	t=5.88	4.28903874	0.00001794
Aroian test	t=6.27	4.26030587	0.00002041
Goodman test		4.31836091	0.00001572

All three tests of mediation give nearly identical values. The hypothesis tests the assumption that the mediated effect is equal to zero. The null hypothesis is rejected and therefore Job meaningfulness has a mediating effect on job satisfaction.

Discussion and Conclusion

This study was carried out to evaluate the effect of green HRM practices on job satisfaction and job meaningfulness. Also investigated were the effect and role of organizational setup on the promotion and fostering of green HRM practices. We found support for all four hypotheses postulated in the study. Green HRM practices such as hiring to rewarding employees for environmental target achievements can lead to an improvement in the environmental performance of an organization. The study also brought about the relationship of employee job satisfaction resulting from the promotion of Green HRM practices. Further, the meaningfulness in the job is a resultant effect of the green HRM practices and job meaningfulness then

meaningfulness and ultimately leads to job satisfaction that the employees derive by doing their bit in the conservation of the environment. The study opens the floodgates of further research in green HRM and its economic and environmental impacts. Green HRM can be used as an effective strategy for achieving UNSDG goal # 13 on climate action. Putting green HRM practices in place requires organizations to follow the triple bottom line approach of economic, social and environmental dimensions. Employees, being at the core of the human capital of the organization must be involved completely and comprehensively if any environmental programme has to succeed.

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