

Fostering the Sustainable Performance of the Organization Through Green HRM and Green Collective Engagement

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Abstract

The purpose of this study is to explore the Impact of Green HRM in making an Organization's Sustainable Performance with the mediating effect of Green Collective Engagement. This study follows quantitative strategies to collect data from 96 companies in Lahore Pakistan using a convenience sampling technique. The cross-sectional Research design was used in this research. All hypotheses are excepted and support the theoretical framework. Findings indicate that Green HRM is positively related to sustainable performance and Green collective engagement mediates the relationship between Green HRM and Sustainable performance. Moreover, through this study organizations can get guidance and successfully achieve sustainable performance through green hrM and collective engagement. Confirmatory factor analysis (CFA) through Amos, and hypothesis testing were done by Preacher and Hayes process. This study will show how organizations can perform their role for sustainable performance by protecting the environment.

Keywords: Sustainable Performance; Green HRM; Collective Engagement

1 Introduction

Green HRM practices support the use of available resources of an organization for environmental protection and its sustainability. Prioritization of sustainable measures for almost every business organization is very essential for the protection of the ecosystem and needs of future generations (Ali & Irfan, [2020](#); Irfan, [2021](#); Malik et al., [2017](#); Naveed et al., [2019](#); Zhu et al., [2021](#)). Sustainability has become a conversational topic worldwide for initiating sustainable efforts in addition to technology and innovation, a focus on the processes, service, and product is also

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required (Ahmad et al., [2021](#); Asad et al., [2020](#); Malik et al., [2017](#); Shahzad et al., [2019](#); Zhang et al., [2012](#)). It is observed that innovation in the products is well served and focused in all these three requirements as compare to process and service innovation (Ali et al., [2015](#); Jaffar, [2020](#); Jiakui et al., [2023](#); Su et al., [2021](#)) and got least attention.

Firm's sustainability performance has been well defined by Lourenco, Branco, Curto, and Eugenio 2012 "it measures the extent to which a firm embraces social equity, environmental integrity, and economic prosperity into its operations, and in the long term their impact on the company and society (Al Halbusi et al., [2022](#); Jaffar et al., [2020](#); Lebni et al., [2021](#); Mohammadi et al., [2021](#); Shoib et al., [2022](#))." This explanation matches with the triple bottom line of a firm sustainability of its total performance (Abbas et al., [2023](#); Iorember et al., [2022](#); Mubeen et al., [2021](#); Soroush et al., [2021](#); Su et al., [2021](#)). It includes societal, economics and most importantly eco-friendly performance (Hafeez et al., [2023](#); Local Burden of Disease [2021](#); Micah et al., [2023](#); Peter et al., [2017](#); Su et al., [2021](#)). Undoubtedly sustainable performance of an organization affects its recognition and also its relation with society, shareholders and also productivity of its workers (Lourenco et al., [2012](#)).

Sustainability and overall performance of an organization is an important criterion to keep in mind to measure its performance because there are many states of the companies who are beneath strain to record of their efforts for sustainability. Emphasis on sustainable performance urges the organizations to revisit their strategies and also check their performance on three main ideas monetary prosperity, social equity and most importantly environmental integrity (Farzadfar et al., [2022](#); Moradi et al., [2021](#); Su et al., [2022](#); Zafar et al., [2022](#); Zhuang et al., [2022](#)). Here we need to keep in mind that the overall performance of a firm in one area has its effect on the other two important contributors mentioned above in today's market. To achieve high performance engaged workforce is critical (Lee & Ha-Brookshire, [2018](#)).

In a research study, it was observed that companies can enjoy up to 103 percent more success rate in terms of (customer satisfaction, productivity, profits, and employee retention) than their competitors with employees having less engagement (Harter et al., [2002](#)). In this study, to provide benefits to the community it has been proposed that organizations need to consider their role for environment protection by considering it as an integral part of their sustainable performance and by giving it weight in their Corporate Social Responsibility (CSR) agenda (Ge et al., [2022](#); Hussain et al., [2017](#); Liu et al., [2021](#); Zhang et al., [2022](#)). Engaging the employees collectively to address the environmental issues is among the most important challenges faced by the organization today and in the future (Frank et al., [2004](#)). To achieve such a performance, the mediating role of "Green Collective Engagement" in the proposed framework on the organizational level (Abbas et al., [2019](#); Aqeel et al., [2022](#); Li et al., [2022](#); Li et al., [2022](#); Schmidt et al., [2022](#)). Previous studies do not show significant research on this variable. Scholars suggested that collective engagement portrays itself in such a way that employees in the organizations share the perceptions of investing themselves, their work roles putting together their physical, emotional and cognitive energies at the organizational level towards its goals (Asad et al., [2017](#); Azadi et al., [2021](#); Mubeen et al., [2021](#); NeJhaddadgar et al., [2020](#); Shuja et al., [2020](#)).

That becomes a competitive edge for an organization, as it is difficult to imitate through individual employee commitment and involvement. Collective engagement is far beyond the aggregated sum of the engagement of employees at a special level (Bakker et al., [2006](#)). It also refers to how all members in the organization are involved in the

"Collective organizational alliance of hands, head and heart (Craig & Silverstone, [2010](#))". Research shows that employees are interested to take initiative related to the environment, supervisors have a clear and democratic way of communication regarding the environment (Ramus, [2001](#)). while they involve them in achieving goals related to environmental protection

and its improvement (Govindarajulu & Daily, [2004](#)). Based on the available research findings it can be considered that “Green Collective Engagement” is a more focused variable which will help to channelize human capital and other resources of an organization in achieving its goal by revisiting its existing procedures and replacing them with environment-friendly processes (Aqeel et al., [2021](#); Azhar et al., [2018](#); Geng et al., [2022](#); Li et al., [2021](#); Zeidabadi et al., [2022](#)). It is one of the main requirement for sustainable performance.

1.1 Research Questions

Following research questions will be answered:

1. What is the impact of organizational citizenship behavior and organizational effectiveness?
2. Does organizational citizenship behavior mediate between paternalistic leadership and HEIs effectiveness?

2 Theoretical Framework & Hypotheses

As per the Resource-Based Theory, the valuable capability of an organization can be a competitive edge for an organization (Aman et al., [2022](#); Paulson et al., [2021](#); Rahmat et al., [2022](#); Yao et al., [2022](#); Zhou et al., [2021](#)). Competitive advantage can sustain the capacity of an organization over its competitors unless they attain the uniqueness of the organization (Barney et al., [2001](#); Sirmon et al., [2007](#)). Link of engagement theory has been established with the resource management model (Sirmon, Hitt, & Ireland, [2007](#)), to understand the green collective engagement, Resource management model has two main points, which can be linked with this study in the following way: First, to create the unique organizational capabilities by combining its resources in such a way that they can become valuable for the performance of the organization (Hussain et al., [2021](#); Hussain et al., [2019](#); Wang et al., [2021](#); Yoosefi Lebni et al., [2021](#)). Secondly, the processes of handling the organizational resources by the leadership as they would know resources harmony needs to be created to get a combined effect. Through the resource management model, a view of the green collective engagement process in an organization will provide an opportunity to create uniqueness in its capability by bundling its resources to create motivation among the employees of the organization to gain collective effect.

The resource management model will also explain the involvement of upper-level management in implementing the strategies and policies that may increase their effect on firm-level resources by making it an organizational capability (Anjum et al., [2017](#); NeJhaddadgar et al., [2020](#); Yoosefi Lebni et al., [2020](#)). It provides an explanation to the process through which once the resources of an organization can be combined for one purpose which will be a competitive advantage for the organization (Sirmon et al., [2007](#)) can increase its collective effect for sustainable performance through green collective engagement. The concept of sustainable performance of an organization will be studied following the green HRM practices through green collective engagement as a mediator. This study aimed to prove firms' sustainable performance is an important outcome of green collective engagement that is mainly based upon the integration of resource management model (Sirmon et al., [2007](#)) engagement theory.

The phenomenon of Corporate Social Responsibility (CSR) is explored in this research. Researchers define CSR as “such actions and policies of organizations that consider stakeholder’s expectations the triple bottom line of economic, social and its performance related to environment”. (Aguinis, [2011](#)). CSR is also related to the study for engaging the whole-self as it is related to one’s concept (as Korschun et al., [2014](#)) explained CSR,” is core belief about a particular issue rather than an attitude”

While having CSR at the center of this research Institutional theory is also needs to be considered.

According to Institutional, theory firms cannot survive in a business environment unless it has external social approval up to a certain level by following social norms (Meyer & Rowan [1977](#); DiMaggio & Powell [2012](#)). Similarly, we need to consider Resource Dependence. This theory states that firms and companies depend upon their environment and surrounding for the continuous and granted flow of the resources which are critical for their survival and sustainable performance. Therefore, such organizations must need to fulfill the requirements of their environments (Dowling & Pfeffer, [1975](#)).

2.1 Link Green HRM and Sustainable Performance

Green HRM practices involve employees for the opportunity to make efforts and initiatives for the sustainability of the organization (Jabbour & de Sousa Jabbour, [2016](#)). In planning and organizing Green HR describes firms' actions that show the organizational structure, strategies for green production and organizational culture (González-Benito & González-Benito, [2006](#)). 'Green' HRM practices are encouraging sustainable performance at the collective level. Some studies on the individual level commitment have shown that green commitment to environmental issues helps for the important attitude that creates a sustainable performance in the organization. HR practices and policies create awareness for sustainability on all three levels social, economic and environmental performance. These are positively related to each other; the HR department takes initiatives with sustainable performance that will create a positive impact on sustainable performance. Moreover, (Kerdawy & Ahmed, [2019](#)) mentioned the perceptual relationship between GHRM and sustainable performance.

Green training and green hiring increase awareness about environmental issues among employees to understand the intricacy of sustainability-related issues and better understanding how sustainability can be affected by the organization's working activities (Daily & Huang, [2001](#)). Green HRM is related to green performance and green knowledge and green behaviors in organizations. For example, CIPD study shows according to the surveys 21% of the HR manager's performance assessment based on sustainability objectives. Green Performance Management (GPM) and practices and policies guide employees about the organization's green objectives for sustainable environment and performance (Govindarajulu & Daily, [2004](#)).

Balancing financial and environmental overall performance has come to be the focal point of consideration for groups facing stress from shareholders, competition, and societal impact as a whole. So that, there is a tremendous courting among environmental performance, green control, and financial overall performance and researchers of HR practices, for the improvement of green performance (GP). In organizations employees are directly related to HRM practices, HPWP tends to have the maximum on the spot impact on worker consequences (Zhang & Morris, [2012](#)), and through this effect, organizational overall performance consequences are showed well. By knowing, that considering green culture in every stage of HRM responsibilities is essential, considering HRM practices guide the application and protection of a green control machine, thus supporting an organization in achieving a better green overall performance (EP) (Jabbour & de Jabbour, [2016](#)).

More importantly, the orientation of GHRM practices and policies with the sustainability performance of an organization will combine to make an organization financially better and as it helps in setting their destiny goals. Indeed, attracting and hiring workforces inquisitive about environmental improvement will simply cause hiring a skilled group of workers devoted to environmental troubles. Same as, reinforcing employees' participation and dedication in green moves and handing over green education can also enhance their intellectuality and abilities, as a consequence of growing the Economic Performance of Firms (Longoni et al., [2018](#)). Moreover, (Kerdawy & Ahmed, [2019](#)) mentioned a clear picture of an employee with the purpose of an extra social and environmental performance, by supporting the relationship between GHRM and CSR.

Furthermore, the results from their research confirmed that GHRM undoubtedly influences sustainability performance. GHRM practices helped in sustaining the environmental standards and values of firms.

H1: *Green HRM is positively related to sustainable performance.*

2.2 Link Green HRM and Sustainable Performance

Green HRM practices will serve as an investment to enhance the sustainable performance of an organization through a mediating effect of green collaborative engagement by involving the whole organization.

In this study, it is proposed that green collective engagement will provide a mechanism by playing the role of catalyst in achieving sustainable performance by following the policies and procedures of green HRM practices. In this model green collective engagement is considered such organizational capability which creates value and also uniqueness for the firm in its efforts for sustainable performance. It will also be studied that how an organization having green collaborative engagement will perform better than other firms in the field.

It is proposed that Green collective engagement increases the value of an organization in a number of ways; first by engaging the employees with a shared vision of creating green effect of their firm which can be viewed as group efficacy for a shared goal (Bakker & Schaufeli, 2000), secondly employees will start comparing their efforts with their colleague for green effect of their firm, some employees will start putting more efforts for the shared goal as result of comparison with their colleagues thus it will become a norm of the company. Such a norm of the firm becomes more valuable indicator of its performance than an aggregate of each employee; third in green collective engagement whole organization from top to bottom is involved in creating the green effect of their organization thus feeling more connected with the organization vision and goals by putting their individual interest aside.

Researchers suggest that the internal resources including human resources of a firm played an important role in establishing environmental performance of an organization which is an important development towards its sustainable performance. HRM has been considered an important and key player in developing environmental and sustainable performance since mid of 1990 (Milliman & Clair, 1996). It was confirmed in a study carried out by (Jackson et al., 2011)

that different HR practices are have positive relation with the environmental performance of a firm this includes green recruitment, green training and development and also green performance management and compensation.

H2: Green Collective Engagement mediates the relationship between Green HRM and Sustainable Performance.

3 Theoretical Framework

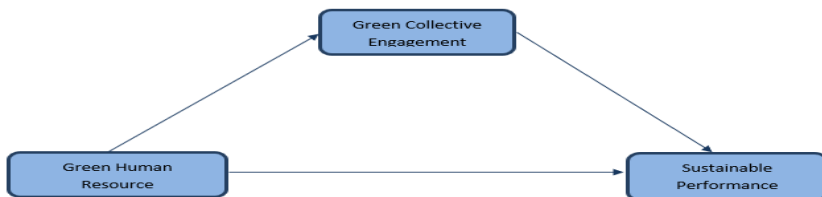


Figure 1: Theoretical Framework

4 Methodology

4.1 Data Collection

The data was collected based on convenience sampling. Executives working at different levels i.e. upper-level managers, middle-level managers; lower-level managers were approached who are working in the industry such as pharmaceuticals, information technology and education sector. All the organizations from which data was collected have their physical presence in Sheikhpura and Lahore, Pakistan. Data was collected by using stratified sampling survey questionnaire. The questionnaire was in English and also self-administrative. An opening statement was written to acknowledge the respondent for sparing time and his confidentiality in terms of his response to the questions included in the questionnaire about the purpose of the research “To examine the Role of Green HRM in creating Sustainable Performance”. Our level of analysis throughout the research data collection was organizational. The opening statement was also giving assurance to the respondents regarding keeping the data anonymous and confidential. We distributed survey questionnaires through online tools and hard copies. From 315 surveys questionnaire distributed and we had 162 usable responses with a response rate of 52.06%.

4.2 Measures

Variables were measured through previously validated scales. We used the established scales that have been successfully applied in prior research. The scales were adopted with little modification where required, to enhance the compatibility with the context of this research. All variables were measured through 5 Point-Likert scales starting from 1= strongly disagree to 5 = strongly agree. The independent variable Green Human Resource Management was measured by using the five-point Likert scale. It includes five items of GHRM. Sample items were “Arranging such training is like an investment in staff.” and “Green HRM practices of an organization also improve the health of the employees by removing steps those are threat to the environment”. The items were rated on a five-point Likert scale ranging from 1 (= strongly disagree) to 5 (= strongly agree). This scale is used in previous research by Renwick, D. W., Redman, T., & Maguire, S. (2013).

The mediating variable Green Collective Engagement was measured by a set of five items, developed by our research group and it was also measured on a five-point Likert scale (Appendix C). Sample items were “All of my colleagues and I put efforts together for green purposes.” and “Establishing procedures related to environment protection by having everyone on board”. These items were rated on a five-point Likert scale ranging from 1 (= strongly disagree) to 5 (= strongly agree). The higher score indicates that employees are provided with opportunity and involvement measures taken by the organization towards green collective engagement which was given by (Barrick et al., [2015](#)).

The dependent variable Sustainable Performance was measured by a set of 16 items selected which is given by (Székely & Knirsch, [2005](#)), Sample items were "Processes need to be re-engineered to reduce waste." and "Staff participation should be increased in management decisions". These items were also measured on a Likert-scale from 1 (= Strongly disagree) to 5 (=Strongly agree).

4.3 Control variables

Age, Gender, Tenure in organization, organization, experience, and qualification were used as control variables following previous research on Sustainable performance (Guerci et al., [2016](#)). Selection of control variable was based on understanding through literature review on Green HRM.

4.4 Data Analysis

SPSS 22.0 and AMOS 20.0 were used as analysing tools. Mean, Standard deviation and frequency of the obtained data were calculated. To measure reliability Cronbach's Alpha and CFA values were calculated. Hypotheses testing and the causal effect were examined through correlation and

regression analysis. The correlation was analyzed through Pearson correlation and for mediation analysis, we used Preacher and Hayes models.

4.5 Common method variance

Self-report questionnaire used, data on dependent and independent variables were collected from the same participant at the same time, common method variance (CMV) may be a concern. Research studies may suffer from common method variance (CMV), Ex ante and post ante techniques are used to avoid CMV (van Witteloostuijn et al., 2020) respondents were acknowledged about confidentiality and anonymity through the opening statement. Keeping the data anonymous and confidential also serve as a remedy to cater to social desirability (Spector, 2006). Assurance regarding confidentiality and not of sharing information with anyone was given to the respondents and they were also requested to complete the questionnaire as honestly and impulsively as possible. It was also avoided to use terms that are unclear or unfamiliar or vague to the respondents by formulating them in such a way that they are as concise, easy to understand and clear as possible (van Witteloostuijn et al., 2020).

5 Results and Analysis

5.1 Preliminary & Descriptive Analysis

Table 1 reflects the results for preliminary and descriptive data analysis. Total number of respondents was 162; in which 114 respondents were male with the percentage of 71.1% and 48 respondents were female with the percentage of 28.9%. Qualification demographics reflected 13 persons were having M.Phil./PhD as their recent qualification in terms of education with the percentage of 7.8%. Master's degree was attained by 85 respondents with the percentage of 51.2%, 64 respondents have done graduation with the percentage of 38.6 %, 4 respondents had passed HSSC qualification with the percentage of 2.4 %.

Designation item's result in Table 1 reflected that 27 of the respondents were working as upper level managers with the percentage of 16.3%. 114 respondents were from middle level management with the percentage of 68.7 % and 25 respondents were working as lower level managers with the percentage of 15.1%.

Data was collected from Ninety-Seven different private sector organizations working in the jurisdiction of Pakistan from service sector and manufacturing sector. Most respondents had spent 1 to 5 years with the current company with a percentage of 48.8%, 16.9% respondents had spent less than 1 year with the current organization, 48 respondents spent 5-10 years in the current organization with the percentage of 28.8%, 6 respondents spent between 10-15 years in the current organization and only 3 respondents spent more than 15 years in the current organization with the percentage of 1.8%.

Experience item analysis reflected mostly respondents were having higher number of job experience as the mean for job experience was 5.91 with the standard deviation of $\pm$ SD 5.28 and ranged from 1 year to 30 years of experience. Most of the respondents were young and in middle stage of life as mean age was 31.60 with the standard deviation of $\pm$ SD 6.90 and ranged from 19 years to 55 years of old.

Table 1: Demographic

	N	%
Gender		
Male	114	70.7
Female	48	29.3
Qualification		
M. Phil/PhD	13	7.9
Master	83	50.6
Graduation	64	39.0
HSSC	4	2.4
Designation		
Upper level Management	28	14.6
Middle level Management	96	50.0
Lower Level Management	68	35.4
Tenure with Current Organizations		
Less than 1	41	21.4
1-5 Years	82	42.7
5-10 Years	38	19.8
10-15 Years	24	12.5
15 years & above	7	3.6

Table 2: Total working Experience

	Mean ($\pm$ SD)	Range
Total working Experience	7.6 (6.69)	1.0-40
Age	31.6 (8.59)	21-69

Note. N = 162

N represents number of respondents.

Age and Total working experience were measured in years.

Table 3: Correlation and Reliability

Note. N = 162

	Mean	St. Div.	1	2	3
1.Green HRM	3.77	.713	(0.726)		
2.Green Collective Engagement	3.40	.761	0.185*	(0.734)	
3. Sustainable Performance	3.77	.585	0.362**	0.473**	(0.866)

Values along the diagonal are Alpha reliabilities.

* $p < .05$.

** $p < .01$

5.2 Correlation analysis

Table 2 shows descriptive statistics, bivariate correlations, and alpha reliabilities. Correlation of green collective engagement with green HRM is ($r = 0.185$, $p < .05$), Sustainable performance was significantly associated with green HRM ($r = 0.362^{**}$, $P < .01$) and sustainable performance was significantly associated with green collective engagement ($r = 0.473^{**}$, $p < .01$). Cronbach's alpha values were presented in parenthesis where the Cronbach's alpha value for green HRM is (0.726), for green collective engagement Cronbach's alpha value is (0.734), for sustainable performance the value of Cronbach's alpha is (0.866). Mean and standard deviation is also mentioned in table

2 for each variable i.e. green HRM, green collective engagement, sustainable performance.

5.3 Results - CFA

To check the validity of constructs confirmatory factor analysis engaged. Items with loadings less than 0.45 were deleted for analysis. After all, 23 items out of 26 retained for analysis. For green hrm 1 item and for sustainable performance 2 items were deleted (see Appendix-2 for details). Notes for model shows minimum model fits were archived. “Goodness of fit index (GFI)”, “Root mean squared error approximation (RMSEA)”, “Comparative fit Index (CFI)” modification indices, standardized loadings, and standard errors were used to determine the model fit. Cronbach’s alpha values indicate the reliability of constructs (Table 2). Cronbach’s alpha shows the lowest .726 value for green hrm that indicates high level of reliability, Appendix-1 contains complete details of standardized loadings, Cronbach’s alpha values, means and standard deviations of the retained constructs. One-Way ANOVA test used to test the significance of demographics and control variables on sustainable performance (dependable variable). Only age and gender have a significant effect on sustainable performance. To assess the association between interest variables, bivariate correlations were computed. Table 2 shows the bivariate descriptive statistics, correlations among the interest variables.

Table 4a: Goodness for fit indices for CFA (Green HRM)

Goodness of Fit Statistics	CFA	Recommended Values
χ^2/df	1.328	< 5
Root mean squared error approximation (RMSEA)	.045	< 0.08
Comparative fit Index (CFI)	.998	> 0.90
Tucker-Lewis Index (TLI)	.988	> 0.90
P-close	.340	< .05

Table 4b: Goodness for fit indices for CFA (Green Collective Engagement)

Goodness of Fit Statistics	CFA	Recommended Values
χ^2/df	1.347	< 5
Root mean squared error approximation (RMSEA)	.046	< 0.08
Comparative fit Index (CFI)	.992	> 0.90
Tucker-Lewis Index (TLI)	.981	> 0.90
P-close	.437	< .05

Table 3c: Goodness for fit indices for CFA (Sustainable Performance)

Goodness of Fit Statistics	CFA	Recommended Values
χ^2/df	1.598	< 5
Root mean squared error approximation (RMSEA)	.061	< 0.08
Comparative fit Index (CFI)	.944	> 0.90
Tucker-Lewis Index (TLI)	.925	> 0.90
P-close	.196	< .05

Confirmatory factor analysis (CFA) was conducted to constitute the validity of constructs being

used in this study. Items having loading less than 0.5 were deleted to maintain the validity of constructs. 2 items of sustainable performance were removed having loading value (.17), (.31) and 1 item of GHRM with factor loading (.29) deleted. All remaining items were used in further analyses. Model fit was evaluated by calculating the values of modification indices, standardized loading and standards errors. Findings show that these constructs fulfil the condition of convergent and discriminant validity by achieving the criteria in order to fit the data as shown in table 3, 3a, 3b & 3c. Furthermore, to evaluate the reliability of scale items, we have conducted reliability analysis through SPSS statistics 19. Cronbach alpha value was used to see the reliability of measuring items. All variables have greater than .7 Cronbach alpha value.

Table 5: Goodness for fit indices for CFA

Goodness of Fit Statistics	CFA	Recommended Values
χ^2/df	1.757	< 5
Root mean squared error approximation (RMSEA)	.069	< 0.08
Goodness of fit index (GFI)	.841	> 0.90
Comparative fit Index (CFI)	.866	> 0.90
Tucker-Lewis Index (TLI)	.843	> 0.90
P-close	.005	< .05

Recommended values are taken according to Byrne (2010), Chiu et al., (2006).

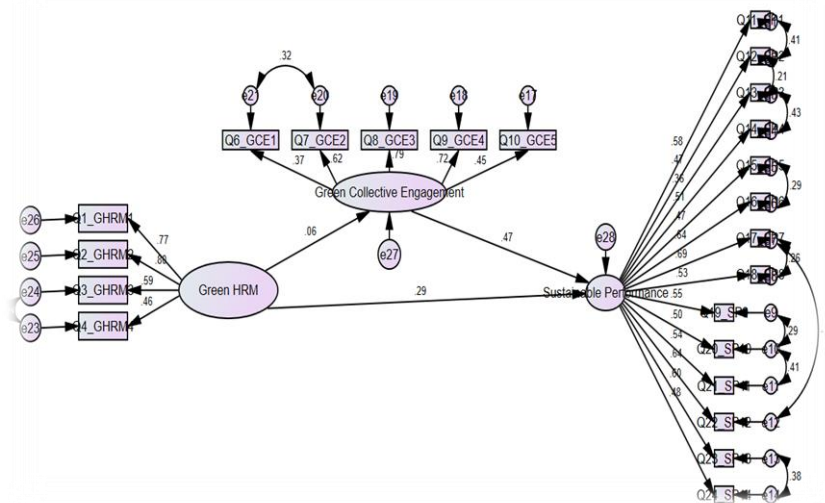


Figure 2: Mediation Analysis by using Preacher and Hayes Model 4

**Figure 3:** Conceptual Model**Table 6:** Reflects All the Results For Direct, Indirect And Total Effects

GHRM→ GCE → SP	Effect	SE	LLCI	ULCI	P Value
Total effect	.2969	.0604	.1772	.4158	.000
Direct effect	.2326	.0553	.1234	.3418	.000
Indirect effect	.0639	.0337	.0038	.1358	. Sig

N= 162, *p< .05, **p< .01.

Figure 2 is for the understanding of the conceptual model. Table 5 is reflecting results for the relationship between GHRM and GCE through SP was analyzed using Preacher and Hayes Model 4. Table 6 reflects all the results for direct, indirect and total effects. Entered SP as outcome variable Y, GHRM as independent variable X and GCE as Mediator M. Effects were computed for each of 1000 bootstrapped samples, and the 95% confidence interval. The indirect effect was (.0639) with standard error (.0337). We tested the significance of this indirect effect using bootstrapping procedures and found significant as Lower Level Confidence (.0038), Upper Level Confidence (.1358). Direct effect was (0.2326) with standard error (0.0553) and was significant with p value (.00). Total effect was (.2969) with standard error (.0604), Lower Level Confidence (.1772), Upper-Level Confidence (.4158) and P-value (.00). The results were according to our 1st hypothesis that green hrm is positively related to sustainable performance and 2nd hypothesis that green hrm is likely to have the significant positive relationship with sustainable performance through GCE.

6 Discussion

In this study, it is explored how focused collective employee engagement works for the sustainable performance of an organization. Such a focused effort is named as "Green Collective Engagement" in this article. To understand such engagement, a link of engagement theory with the resource management model (Sirmon et al., 2007) is established to show that how and why an established construct is valuable for an organization.

The framework of this study is such a model that shows how green collective engagement can enhance and maintain organizational sustainability with the help of green human resources practices. It is observed in this study that in order to create a green culture in an organization green human resources practices need to be established. During analysis, it is found that these practices have a significant role in sustainable organizational performance.

During the survey, it is found that the interest of top management in applying green human resource practices also increases employees' collective engagement for green purposes i.e., green collective engagement. So it can be inferred that green HR practices coupled with green collective engagement create such a synergy effect of physical, emotional, and cognitive energies that lead to organizational sustainability in environment-conscious society and environment concerned era.

This study contributes to the available engagement literature in the following ways, collective engagement-focused for green practices named as green collective engagement is found missing because neither of the reviewed studies explored this important concept in the current age when

the sustainability of the organizations depends upon their contribution towards environment safety and protection which will also be a competitive advantage for the organization. Further to this according to our knowledge no research has studied or investigated green collective engagement as a mediator of green HRM practices and firm's sustainable performance. However, we must include here that it is not the first study proposing that employee engagement at an organizational level as there are other studies showing the engagement effects on organizational success (Harter et al., [2010](#)).

This expands our existing understanding of how an organization's motivation-enhancing resources can be strategically combined and aligned in order to positively impact the success of the entire organization and highlights the need to examine strategic implementation as a central boundary condition of organizational-level phenomena (Bourgeois & Brodwin, [1984](#)). In this model green collective engagement provides an opportunity for the employees of the different departments to work together thus sharing their ideas and experiences (Lin, [2007](#)) which will also lead towards a competitive advantage to the firm by creating unique and innovative solutions to the problems. The analysis of the collected data shows that the managers should share the perception among employees that all of them are engaged together to achieve the shared vision. It can be achieved only if the firms also work on developing such perceptions among their employees that collectiveness is an important ingredient that is required to achieve a non-imitative competitive advantage at the company level. As it is found that competitive intensity has its effect both in short-term and long-term on the sustainable performance of any organization (Kumar et al., [2011](#)). It is important to note here that to create a focused workforce that is also engaged collectively can only be developed by strategically managing the resources of an organization in such a way that they work for the creation of such collectiveness across the board.

In this research Proactive approach to the environmental issue is suggested by considering the role of Corporate Social Responsibility (CSR) of an organization as compared to a reactive approach, as it is future-oriented and considered as a motivation to gain a strategic advantage over competitors and better organizational performance as a result of cost reduction.

7 Conclusion

The results of this study show successfully how green collective engagement can build up a green culture in the organization by implementing green human resources practices resulting in the company's sustainable performance. It is highlighted in the study that how the management can strategically increase the effect of organizational resources by creating collectiveness in their effect and by following the objective of sustainable performance by protecting the environment. It is emphasized here that managers and research scholars should accept that green collective engagement is such a capability of any firm that can play a key role in the success of any organization. In the current era, such a green initiative helps companies to play a key role in saving the environment which is also considered as a competitive edge at this time and in the future as well.

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