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Article

If you care I care: role of Green Human Resource Management in employees green behaviors

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If you care I care: role of Green Human Resource Management in employees green behaviors

Wajiha Rashid¹, Usman Ghani¹, Kalimullah Khan^{2*} and Muhammad Usman³

Abstract: This purpose of this study is to examine the underline mechanism (i.e. green employee empowerment (GEE)) between the relationship of green human resource management (GHRM) and green knowledge sharing (GKS) of employees. Additionally, is to examine the moderating effect of individual green value (IGV) between the relationship of GEE and GKS behaviors. Survey method was used to collect the data from employees working in manufacturing organizations of Pakistan. The study hypotheses were test with a usable sample of 359 through SPSS 22.0 and AMOS 22.0. The findings explain that GHRM has positive influence on GEE, and GEE positively influence GKS behaviors. Further, the results confirmed that GEE mediated the relationship of GHRM and GKS behaviors. Moreover, the findings also established the moderating role of IGV between the relationship of GEE and GKS behaviors such as the relationship is strengthened at high level of IGV. Also, based on the finding, implication for theory and practice, and directions for future research are discussed.

Subjects: Environmental Psychology; Testing, Measurement and Assessment; Work & Organizational Psychology

Keywords: Green Human Resource Management; Green Employee Empowerment; individual green values; green knowledge sharing behaviors

1. Introduction

The concern for protecting the environment is flourishing worldwide, and getting the attention of scholars and practitioners to fight for environmental change (Fernando et al., 2019; Hameed et al., 2020). Recently, the stakeholders such as employees and customers also demanding that their organization should be responsible environmentally (Boiral et al., 2018). Therefore, corporations are taking initiatives to shift their traditional business models to green business models by execution of environment friendly initiative to their business operations (Wagner, 2011), to get the competitive advantage. Shen et al. (2016) stated that green initiative are the core practices of green human resource management (GHRM), which enforce employees to help in achieving the green objectives of the organizations. Thus, GHRM is vital to motivate employees to involve in green initiative, which are aligned with the organizations' vision (Roscoe et al., 2019). Jackson and Seo (2010) proclaimed that GHRM is a combination of practices used by many organizations to execute green policies that are leading to sustainable environment.

GHRM is defined as "HRM activities that enhance positive environmental outcomes" (Kramar, 2014, 1075). It is essential for strong implementation of environmental management policies and green strategies (Daily & Huang, 2001). Howard-Grenville et al. (2014) stated that GHRM is a concept that is growing consistently with the literature of organizational sustainability development and recognized as a different area of study in the last decade. Previous studies linked GHRM

to environmental management and performance (Shen et al., 2018; Subramanian et al., 2016). The literature also associate GHRM to positive employees' outcomes such as with eco-friendly behaviors, extra-role and in-role green behaviors (Dumont et al., 2016; Kim et al., 2019). Despite these studies on GHRM and employees' outcomes, the research is still in its infancy in this area, and further studies needed to uncover the new social and psychological processes which links GHRM to employees' outcomes (Hameed et al., 2020). Thus, to fill up this research gap, this research study will explore the influence of GHRM activities on knowledge sharing through green employee empowerment (GEE).

Jackson et al. (2014) explained that employee motivation and employee performance are enhanced through employee empowerment, and increase their effectiveness and efficiency. Tariq et al. (2016) Defines green employee empowerment (GEE) as employee uses their empowerment to attain their green goal. Green goals practices included double-sided photocopies, recycling old office furniture, and using energy-efficient appliances. Organizations can meet their desired green goal for environment sustainability through GEE, for example, if supervisor give developmental feedback to empower employees, will help them to engage in green behaviors. In addition, Yong et al. (2020) gives supervisory contribution that green practices can encourage employees to shift towards eco-friendly environment. Thus, empowered employees could be more likely to engage in green knowledge sharing (GKS) behaviors. Moreover, based on supplies-values fit (SVF) theory, this study also examine individual green values (IGV) can moderates the relationship between GEM and GKS behaviors of employees. Hence, the current study will address how and when GHRM influence employees' GKS behaviors.

In sum, the current study contribute to GHRM literature in several ways. First, behavioral literature of HRM, we examine the relation of GHRM and GKS behaviors with the mediating effect of GEE. GHRM can lead to GEE, which could engender GKS behaviors of employees. In doing so, this research responds to the future call (Dumont et al., 2016; Hameed et al., 2020) for examining the underlying mechanism of GHRM and employees work-related outcomes. Moreover, this research examines the individual green value (IGV) as a moderator between GEE and GKS. Interest of individual on environment sustainability can lead their interest to green environment, which can build strong relation of GEE and GKS. Additionally, this research broadens the literature by examine relationship based on hypotheses in a Pakistani context, that is neglected previously (Ren et al., 2018). Economic developed countries and economic developing countries have diverse culture and situations (Hofstede, 2011) therefore this research gives scope for other researchers to explore contradiction situation.

Furthermore, Pakistan is facing major challenges in terms of environment pollution. According to environmental performance index (EPI) 2018 shows that Pakistan stands on 169th position among 180 countries in terms of environmental performance. There are notable changes in environment pollution of Pakistan in 2016 as Pakistan comes under top 30 countries that has been extensively influenced by air pollution. But these environmental problems should be examined in different ways for better understanding. In this study we examine some potential elements like (green human resource management, green employee empowerment, individual green values, and green knowledge sharing behaviors), that somehow gives solution to environmental pollution. These variables might affect behaviors and attitudes of employees and also motivates employees to perform efficiently while designing EM policies.

2. Theoretical background and hypotheses

The current study used two theories to explain the proposed model. Firstly, we have used ability-motivation-opportunity (AMO) theory; as it stated HRM practices are associated with employees' performance (Jiang et al., 2012). In ability motivation theory, human resources operations are associated with performance in relation to ability, motivation and opportunity (Jiang et al., 2012). AMO theory provides understanding that HRM operations increases company's human capital through advancement of human capabilities that could increase performance. According to ability

motivation and opportunity theory HRM may affect employees' voluntary behaviors (Shen et al., 2016). HRM behavioral literature recommends that human resource operation can influence many behaviors and attitudes of employees through variety of psychological and social process (Jiang et al., 2012). GEE is a psychological process that could influence green behavior of employees (Tariq et al., 2016). Moving forward, second theory that has been used in this study is supplies-value-fit (SVF) view that declare the process in which individual values affects their workplace behaviors. In addition, Chou (2014) claims that personal environmental values significantly effect employees' green behavior like GKS behaviors. Therefore, the SVF theory underpins the framework that has been developed in this study.

3. Green Human Resource Management (GHRM) practices and Green Employee Empowerment (GEE)

The extant literature of behavioral HRM, argued that green HRM practices has significant impact on green behavior (Hameed et al., 2020). GEE is a most influential behavior to attain organizations green goals (Dumont et al., 2016). According to Laschinger et al. (2004), GEE is used as a strategic instrument to motivate employee re-evaluate their job prerequisites, search for meaningfulness and increase their competency level at the job. Simpson and Samson (2010) stated that if employees feel empowered, will be motivated towards contribution in environmental management initiatives. For example, empowered employees' sense intrinsic motivation that stimulate job-related positive outcomes like work productivity, job satisfaction, and work place performance. The AMO theory enlightens how GHRM related to green goals of the organization (Appelbaum et al., 2000). According to recent literature, there exist three significant component of green human resource management operation that are: (1) training can develop green ability of employees; (2) to motivate employees toward green performance management; (3) and green opportunities can be provided by employee involvement (Hameed et al., 2020; Masri & Jaaron, 2017), that can significantly increase ability, motivation and opportunity of employees to engage them in green initiatives of the organization. In addition, Renwick et al. (2013) recommends in their research that implementing green HRM practices effectively to contribute in environmental sustainability. For instance, employees can be motivated by socioeconomic perks of environmental management via arrange green HR training and establish employees' green involvement session. Consequently, we confiscate that green human resource management operations can lead to green employee empowerment by considering green tasks requires employee empowerment during initiating green objective of organization. Hence, we hypothesize:

H1. *GHRM practices have positive impact on GEE.*

4. Green Employee Empowerment and knowledge sharing

Knowledge sharing management explains the set of competencies in which organizations shares, creates and utilize knowledge resources to get competitive edge (Sun et al., 2020). Pangil and Moi Chan (2014), explains green knowledge sharing as a byproduct of high management and working together to achieve green goals. Green behavior has an environmental and social importance for employees by being generous in nature (Chou, 2014). We assume that green knowledge sharing is outcome of employees and high management working collaboratively.

Hoffman (1993) stated that organizations could stimulate their workforce to participate in discretionary behaviors like organizational citizenship behaviors through green empowerment. Further, Pinzone et al. (2016) argued that employees' participation in decision-making is linked with environmental issues, and they more motivated to exhibit voluntary behaviors to improve the environment. Moreover, when employees have green environment in the organization then they realize green empowerment, which may motivate them engage in GKS behaviors. Based on these arguments, we also proposed that GEE will leads to GKS behaviors.

H2. *GEE has positive impact on green knowledge sharing.*

5. Green Employee Empowerment as a mediator

Jiang et al. (2012) argued that HRM practices can influence employee's workplace behavior via psychological process. The previous study concludes green initiatives and green work environment can leads to positive work outcomes of employees (Shen et al., 2016). This study hypothesized the positive influence of GHRM practices on GEE, and GEE will positively influence on GKS. Therefore, it can be rational that relation GEE will mediates the relation of GHRM and GKS. It is also justified by social exchange theory by Blau (1964), according to this theory when organizations empowered employees and they feel empowered by advantageous GHRM practices so they feel liable to actively engage in GKS. As discussed, GHRM practices actively increases employees' green motivation, green involvement and green awareness about green initiatives that leads to green employee empowerment to achieve their desire organizational green goals that effects environmental sustainability. These above statements theoretically justify the GEE as a mediator between relationship of GHRM and Employees' GKS. Thereby, we posit the following hypothesis.

H3. *GEE mediates the relationship of GHRM and GKS.*

6. Individual green values as moderator

The literature on green values has clearly mentioned that individual green values has significant effect of employees' green behavior and green attitude (Davidov et al., 2008). The employees' concerns green environmental values are strongly associated with their green behaviors (Chou, 2014). Previous studies also show a positive relation of individual values and environmental performance (Schultz et al., 2005). The SVF and value-belief-norm (VBN theories largely used in the literature which explains that individual behaviors are influenced through individual values (Edwards & Shipp, 2007; Stern et al., 1999). The SVF theory stated that individual values along with organizational values positively influence individual behaviors (Hameed et al., 2020). Therefore, in the study, we also proposed that individual values (i.e., IGV) along with organizational values (i.e., GEE) will leads to more discretionary behaviors of employees (i.e., GKS behaviors, see Figure 1).

H4. *IGV moderate the relation of GEE and GKS such that the relation will be strengthen at high level of IGV vs low level.*

7. Methodology

The data collected for the current study from employees working in manufacturing organizations (manufactures fertilizer, paper packaging, and food processing, etc.) of Pakistan. These organizations have functional structure and is similar in nature regarding HRM activities. Top management is participating very actively in green initiatives in their organization, and management supports us while collecting data. These organizations had already take step towards green initiatives and green policies like recycling, waste management, energy consumption etc. They adopted big range of GHRM operations like green motivation, green training and green involvement. Moreover, this organization motivates their employees towards environmental management like recycling, waste management, energy saving, and material saving. Questionnaire were distributed to employees by using organizations internal mailing system. A cover letter is attached with each questionnaire

Figure 1. Proposed model.

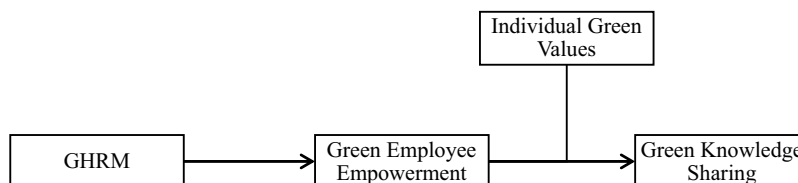


Table 1. Respondents information

Variables		Frequency	Percentage
Gender	Male	213	59.3
	Female	146	40.7
Age (in years)	<30	94	26.2
	30–40	185	51.5
	41–50	70	19.5
	>50	10	2.8
Education	Bachelor	164	45.7
	Masters	171	47.6
	Other	24	6.7
Experience (in years)	<3	51	14.2
	3–6	144	40.1
	7–10	83	23.1
	>10	81	22.6

that gives understanding about the aim of research. Additionally, we informed participants that their involvement is voluntary, given information will be keep confidential, and responses will be only used for research proposal. A total of 369 employee give responses out of 508 employees, out of which removed 10 incomplete responses so usable responses were 359 for final analysis. The demographics details of the participants are mentioned in Table 1.

8. Measure

Green Human Resource Management: GHRM practices measured with six-item scale and were adapted from the study of Dumont et al. (2016). The sample item includes “My organization considers employees’ workplace green behavior in performance appraisals”. The questions were ranked a five-point Likert scale range of 1 (not at all) to 5 (very much).

Green Employee Empowerment: GEE was measured with nine-item scale and adapted from Spreitzer (1995). The sample item includes “The impact of my green behavior on what happens in my department is large”. The questions were ranked a five-point Likert scale range of 1 (not at all) to 5 (very much).

Individual Green Values: IGV assessed by using three-item scale and adapted from Chou (2014)’s personal environmental scale. The sample item was “I feel a personal obligation to do GHRM practices and employees”. The questions were ranked a five-point Likert scale range of 1 (not at all) to 5 (very much).

Green Knowledge Sharing: GKS was measured with four-item scale and was adapted from m Wong (2013). The sample item was “I always share green knowledge obtained from newspapers, magazines, journals, television and other sources”. The questions were ranked a five-point Likert scale range of 1 (strongly disagree) to 5 (strongly agree).

9. Analytical approach

To analyze the data reliability and validity, Cronbach’s alpha, composite reliability, factor loadings, and average variance are calculated. To check for the common method bias (CMB) issues, Harman’s single factor test was used. Finally, to check the proposed hypotheses, Process Marco (Hayes, 2015) was utilized to assess the direct, mediation, and moderation effects. These techniques used by the recent studies to analyze models similar in nature in the area of business and social science research (Ghani et al., 2020; Z. Shah et al., 2020, 2021).

Table 2. Reliability and validity assessment

Variables	Factor Loadings	CA	CR	AVE
Green Human Resource Management	.647–.832	.892	.895	.589
Green Employee Empowerment	.759–.891	.955	.952	.687
Individual Green Value	.821–.874	.876	.879	.707
Green Knowledge Sharing	.635–.800	.857	.861	.509

Note: CR=Composite Reliability, AVE= Average Variance Extracted, CA=Cronbach's Alpha.

10. Measurement tests

To assess the CMB issue, Harman single-factor test was used (Dar et al., 2022; Qasim et al., 2022). The test results show that first factor variance is 34% of the total variance—less than the criterion value of 50%. The finding suggest that the CMB was not a concern. Further, when the studied variables exhibit higher inter-correlations ($r > 0.90$), then CMB is present. The results of correlations (see Table 3) show that higher inter-correlations between research variables were not identified, which also justify no issue of CMB.

Cronbach's alpha, composite reliability (CR), average extracted variance (AVE), and item component loadings were used to extract construct reliability and validity (Fornell & Larcker, 1981; Hu & Bentler, 1999). Cronbach's alpha, CR, and the value of AVE for each construct met the 0.70, 0.60, and 0.50-point thresholds in Table 2. The value of factor loadings for each construct was used to extract convergent validity. Table 2 shows that all constructs have strong convergent validity, with factor loadings exceeding the cutoff threshold of 0.60 for each item. The square root of the AVE and the correlation between each construct were compared to determine whether or not they had discriminant validity. Each inter-correlation measure should be less than the square root value of AVE for each measure, which shows that the model has good discriminant validity (see Table 2). Moreover, the model fitness indices were also show a good fit to the data as 2 (CMIN/df) = 1.907, CFI = 0.967, RMSEA = 0.050, SRMR = 0.045 recommended by Hu and Bentler (1999). We next used PROCESS macro (Hayes, 2015) through SPSS 22.0 version to carry out additional analysis in order to verify our hypotheses.

11. Hypotheses testing

In Table 3, the results show that all correlations coefficients of the study variable were in the proposed direction.

Table 4 shows GHRM has a positive significant effect on GEE as $\beta = 0.347^{**}$ and $t = 5.896$ and, thus, H1 is accepted. The GEE has also positive and significant effect on GKS as $\beta = 0.323^{**}$ and $t = 9.376$, hence, H2 is accepted The GEE mediates the relationship between GHRM and GKS because the CI (0.0654, 0.1708) did not include zero and, thus, H3 is also accepted.

Results of the moderation effect are reported in Table 5. The interactions term (GEE x IGIV) is significant as $\beta = 0.107^*$, $t = 2.031$ which justify to accept H4. In order to better understand the nature of interaction effects, IGIV was divided into low (−1 SD) and high (+1 SD) levels as depicted in Figure 2, at high level of IGIV the relation of GEE and GKS is more strengthened ($\beta = 0.512^{**}$, $t = 8.370$, CI (0.3854 to 0.6221)). At low levels of GIV, the same association is weaker ($\beta = 0.305^{**}$, $t = 4.1667$, CI (0.1608 to 0.4483)). Thus, these findings further support the moderation hypothesis.

Table 3. Means, standard deviations and correlations

	Mean	SD	1	2	3	4	5	6	7	8
1.Gender	1.59	.49	1							
2.Age	1.99	.76	-.103	1						
3.Education	2.41	.61	-.076	.022	1					
4.Experience	2.54	.99	-.001	.045	-.011	1				
5.GHRM	3.85	.91	-.058	.014	.018	.009	.767			
6.GEE	3.87	1.06	-.042	.027	-.084	.097	.298**	.829		
7.IGV	3.97	.93	-.027	-.011	.141**	-.001	.193**	.012	.841	
8.GKS	3.91	.87	-.078	-.006	-.053	.062	.532**	.518**	.183**	.714

Note: *. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed). The bold values are the square root of AVE.

12. Discussion

The recent scholarships has continuously highlighted the key role of GHRM in environmental management (Ren et al., 2018). The present investigation contributes to the existing literature through empirically testing the important role of GHRM in predicting employee’s GKS behaviors in the work setting. Drawing on AMO and SVF theory, this study integrated literature of GHRM, GEE, IGv and GKS behaviors to address the issues of how and when GHRM lead to GKS behaviors. The results of current study lent support to our proposed model.

More specifically, the findings of the study reveals support for the direct and positive influence of GHRM on GEE, and GEE on GKS, leading it to substantiate first and second hypotheses of the study. These findings are also consistent and aligns with the previous studies of GHRM and employee behavioral outcome (Islam et al., 2020; Khan et al., 2022). Further, our results suggest GEE as a potential underlying mechanism that translates the impact of GHRM on employees GKS. Second hypothesis of our study proposed GEE as a mediator of GHRM-GKS relationship. The results shows that GEE mediates the effects of GHRM on GKS. Hence, this investigation adds to the knowledge bank of a burgeoning topic by arguing that GHRM perceptions have indirect influence on employees GKS through GEE, which is still not empirically tested. Having said this, the current study contributes to the limited literature by considering the GEE as an underlying mechanism, to further unveil the underlying process of GHRM and GKS, as guided by recent studies (see for example, Jiang et al., 2012; Renwick et al., 2013). This empirical finding is consistent with prior studies (Islam et al., 2020; Khan et al., 2022; Tuan, 2022), which tested the association between the perception of GHRM and numerous behavioral outcomes via various underlying psychological processes. Finally, in line with previous research (i.e., Dumont et al., 2016), the current study reveals that IGv works as a moderator between GEE and employees GKS. The findings illustrate that when individuals have high green values, the GEE and employees GKS relationship becomes stronger than low. Overall, the results in this study substantiate all hypotheses and have many practical and theoretical implications.

13. Theoretical implications

The findings of current study have many implications to advance theory. First, current research advances the literature of SVF and AMO to understand and explain what causes GKS behavior. Secondly, this study contributes to the understanding of the underlying mechanisms of GHRM and employee GKS by incorporating the psychological process of GEE. GHRM and employee behavior have been studied in previous studies. However, this study specifically contributes the GEE as mediator and employees green values as a moderator of GHRM-GKS relationship, something that has not been studied in prior studies. The results of the current study are consistent with priors studies (Ansari et al., 2021; Khan et al., 2022; Ren et al., 2018; Rubel et al., 2021) and align with theoretical lens of SVF and AMO theories (Bailey, 1993). Furthermore, one of the significant

Table 4. Mediation effect

Outcome: Green Knowledge Sharing	β	SE	t	p
Constant	1.960	.169	11.601	.000
Green Human Resource Management	.506	.043	11.861	.000
Outcome: Green Employee Empowerment	β	SE	t	p
Constant	2.537	.233	10.888	.000
Green Human Resource Management	.347	.059	5.896	.000
Outcome: Green Knowledge Sharing	β	SE	t	p
Constant	1.141	.175	6.527	.000
Green Employee Empowerment	.323	.034	9.376	.000
Green Human Resource Management	.394	.041	9.832	.000
	β	SE	LL95%CI	UL95%CI
Indirect Effect	.112	.027	.0654	.1708
	β	SE	Z	
Normal Theory Test	.112	.023	4.971	

Bootstrap sample = 5000, ULCI=Upper Limit Confidence Interval, LLCI=Lower Limit Confidence Interval.

contributions of the current research is clarifying the boundary specificity of IG. Our moderation analysis shows the relationship between GEE and GKS becomes stronger in the presence of higher green values compare to low green values individuals. According to the SVF (Edwards, 1996) perspective, the congruence between organizational values and personal values consequence in desirable employees' behaviors. Hence, SVF view also offers support to the moderating effect of employees green values on the link of GEE and GKS. Similarly, current research suggest and advances the AMO theory (Appelbaum et al., 2000) by suggesting that organizations should devise GHRM mechanism to attract, empower, train and encourage employees to enhance GKS behaviors for organizational sustainable environmental performance (Islam et al., 2022; M. Shah, 2019). Therefore, this research shows how and when GHRM practices promote GEE and GKS behaviors through the integrating lens of SVF and AMO theories.

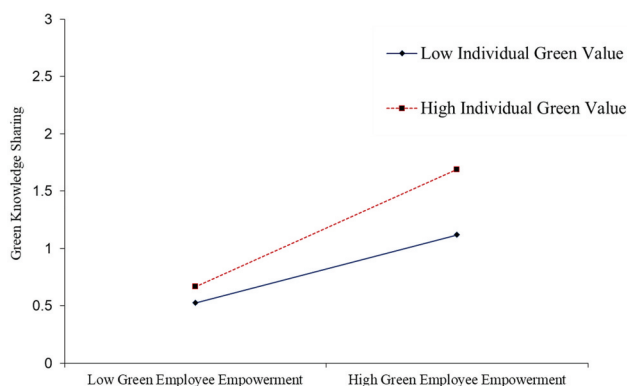
14. Practical implications

Besides theoretical contributions, current study provides insightful suggestions for leaders and managers on leveraging green knowledge sharing behavior for improved environmental performance to beat rivals in the industry. First, we propose that investment in environmental management can improve the image of organizations in the stakeholders' eyes, as firms are in constant pressure due to regulators and other stakeholders' demands on environmental safe practices. The study results suggest that organizations should focus on GKS behavior caused by green practices. Hence, GHRM policies and practices have paramount significance for attaining, encouraging, developing and retaining green employees for supporting organizational environmental strategy. Moreover, organizations should take GHRM practices as a strategic asset to capitalize the potential of human resource towards environmental management for their good image in the market. Based on the study results, we suggest that human resource management department should

Table 5. Moderation effect				
Outcome: Green Knowledge Sharing	β	SE	t	p
Constant	3.909	.039	101.424	.000
Green Employee Empowerment	.404	.046	8.872	.000
Individual Green Value	.177	.054	3.287	.001
Green Employee Empowerment x Individual Green Value	.107	.053	2.031	.043

Note: Bootstrap sample = 5000

Figure 2. Moderation effect of IGV between the relationship of GEE and GKS.



devise GHRM polices and green practices to support green knowledge sharing behavior for the attainment of environmental goals of the organizations. The best organizations can do is to encourage GKS behavior by increasing employees' environmental awareness level through environmental trainings. In addition, organizations may enhance GKS behavior by rewarding employees' green behavior. Similarly, organizations may evaluate employees green practices and consider GKS behavior as one of the main key performance indicator and align green practices with their career opportunities, benefits and salary that can encourage employees towards environment management objectives. These practices can enhance employee's skills and enable them to implement green practices to achieve organizational green goals successfully.

15. Limitations and future directions

Like many other studies, this research study also has some limitations which are presented here along with future research recommendations. Firstly, this research study has been carried in multinational manufacturing organizations operating in Pakistan. Hence, findings of the study may be generalized to manufacturing sector. Future research may expand our study model to service base organizations. Secondly, framework of this study examines GEE as a mediator and therefore, future researchers may explore other social construct such as corporate social responsibility of employees' perspective. Green inclusive leadership and environmental specific responsible leadership may be studied as an antecedent of green knowledge sharing behavior while considering GHRM as mediator. Moreover, future research should investigate other individual level construct as moderator such as green self-efficacy. Future research may also consider the role of internal locus of control and conscientiousness as a moderator. Lastly, future research should investigate the link of GHRM with non-green outcomes.

16. Conclusion

The main purpose of this study was to investigate the employee's perception of GHRM and its impact on their GKS behaviors in various manufacturing organizations. Based on the AMO and SVF perspectives, the current study contributes to the existing literature by examining the role of employees GEE as a potential underlying mechanism between GHRM and GKH behaviors. Further, this study concludes the important positive role of IGV as a moderator between GEE and GKS behaviors. In nutshell, the current study findings furthers the understanding of how and when GHRM perception effect the individuals discretionary behaviors (i.e., green knowledge sharing) and eventually lead to the organizations sustainability and environmental performance.

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Disclosure statement

No potential conflict of interest was reported by the authors.

Data availability statement

The original contributions presented in this study are included in the article/supplementary material; further inquiries can be directed to the corresponding author.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The participants provided their informed consent to participate in this study.

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