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RESEARCH PAPER

Pathways towards Environmental Sustainability: Evidence from Small and Medium Enterprises of the Manufacturing Sector of Pakistan

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ABSTRACT

This paper purposes to analyze the relation among top management support, environmental orientation, and green HRM practices with environmental sustainability in SMEs of Pakistan. A survey based methodology is adopted for collecting data from the main cities of Punjab, Pakistan. SMEs related to the manufacturing sector were targeted. The data gathered were collected from 200 HR professionals and analyzed using partial least squares (PLS). The observed findings indicate that top management support and internal environmental orientation stimulus green HRM practices which improve environmental sustainability. The implication of green HRM practices can smooth the progress of firms in saving resources in manufacturing sector by increasing activities at the workplace for environmental sustainability. Present study empirically inspects green HRM as a mediator between top management support, environmental orientation, and green work engagement for environmental sustainability in SMEs.

Keywords: Environmental Orientation, Environmental Sustainability, Green HRM, Manufacturing Sector of Pakistan, Top Management Support

Introduction

In recent times, irreparable changes in the environment, increase in environmental pollution, damage to the natural environment, and the imposition of laws related to the environmental organizations have the immense force to make efforts for the reduction of pessimistic effects on the environment (Ahmed, Asghar, Malik, & Nawaz, 2020). The business sector is taking significant measures to establish harmony between environmental and economic goals, resulting in a win-win scenario in environmental sustainability. Environmental sustainability refers to an act and practice of replenishing resources, limiting pollutant generation, and eliminating activities that harm our environment. As per studies, small and medium scale enterprises accounted for 90% of worldwide businesses and account for 70% of global pollution (Park & Ghauri, 2015). Small and medium enterprise play its vital role in economic development of a nation. SMEs comprise the greater part of organizations in non-industrial nations. Along these lines, they are considered as perhaps the most basic highlights in economic development (Zafar & Mustafa, 2017). The growth of SMEs is seen as critical for the development of developing countries. In Pakistan SMEs play vital role because Pakistan is agrarian country. Pakistan is blessed rich in resources, with an area of 796,094km square, a population of 182.1 million people, and a labor force of 57.2 million people working in various manufacturing sectors (Mubarik, Devadason, & Govindaraju, 2020). Pakistan's SMEs make significant contributions to job creation, poverty reduction, and economic growth. SMEs account for about 90 % of all businesses in Pakistan, engage 80 % of the total non-agricultural working population and contribute around 40 % of yearly GDP(Raza, Minai, Zain, Tariq, & Khuwaja, 2018).

Corporations are evolving the implementation of environmental protection strategies in response to this growing concern, and the literature suggests that increased

implementation of environment-related strategies, which can help the firms to contribute their role towards environmental sustainability (Abdel-Maksoud, Jabbour, & Abdel-Kader, 2021; Paillé, Valéau, & Renwick, 2020). Green human resource management is one of those strategies implemented in firms toward achieving environmental goals. Human resource practice is not only a method of encouraging a company to adopt a wide range of environmental systems, but they are also seen as a way of enhancing a company's brand identity and increasing profitability (Nejati, Rabiei, & Jabbour, 2017). Therefore it is critical to integrate human resources with environmental management approaches. All phases of the environmental management system require the assistance of HRM practices to achieve firm environmental goals(Ansari, Farrukh, & Raza, 2021).

Three main objectives of this research paper as, First, In previous study circumstantial elements of green practices were considered, they haven't been taken into account as thoroughly in research on green HRM practices (Pinzone, Guerci, Lettieri, & Redman, 2016). Therefore this research focuses on two key organizational characteristics that may function as antecedents to implementing green HRM such as environmental orientation and top management support. This is especially significant given the lack of empirically verified research demonstrating the efficacy of top management support as a probable factor encouraging the adoption of green-based HRM practices. The environmental orientation which indicates workers' commitment to environmental protection (Paillé, Chen, Boiral, & Jin, 2014), was presented as a second factor of green HRM. Both criteria complement one another by demonstrating support for green-based HRM practices at all levels within the organization, including employees and management. High levels of management support and environmental orientation, in particular, are expected to lead to the implementation of successful green HRM inside the business, such as emphasizing environmental concerns and attracting, developing, and maintaining environmentally conscious personnel.

Another, the research aspects at the function of green HRM as mediator for environmental sustainability. Even though researchers have focused on the acute part of green HRM practices in enhancing environmental sustainability in recent years but there is gap yet to filled regarding Green HRM practices (Paillé et al., 2014). Furthermore, few empirical studies have looked at how much top management support and environmental orientation help firms enhance sustainability with adoption of green HRM. In response to this gap, this research investigates the mediating function of green HRM in the relationship between management support and environmental orientation, as well as environmental sustainability.

HRM plays an important role and it also shows that it promotes employee involvement in green activities to achieve organizational environmental goals. As a result, it can be claimed that the green HRM is an essential for improving work efficiency, increasing employee engagement, and lowering costs (Aboramadan, 2020). In this context, the fourth objective is to fill this gap by investing mediation role of employee green engagement between green HRM and environmental sustainability. Although just a few studies have used green HRM as a predictive variable for green work engagement in manufacturing sector (Aboramadan, 2020).

Literature Review

Top management support and Green HRM

Numerous contextual and environmental elements have been presented as predictors of green practice adoption (Abdel-Maksoud, Kamel, & Elbanna, 2016; Gadenne, Kennedy, & McKeiver, 2009). Environmental elements comprise the level of uncertainty in the environment and customer and regulatory pressure. organizational factors include things like corporate size and support (López-Gamero, Claver-Cortés, & Molina-Azorín, 2008). Only exceptional elements are taken into account in previous researches about green

practices but they haven't been widely considered in research on green HRM (Guerci, Longoni, & Luzzini, 2016). Top management support has been cited as a key element in implementing green practices in businesses (Li, Ye, Dai, Zhao, & Sheu, 2019). Environmental strategies at the corporate level, in particular, are influenced by how senior management teams perceive environmental concerns as possibilities or dangers. Tackling environmental challenges at the strategic level must be taken in to consideration by top management for environmental sustainability to gain competitive advantage (Qiu, Jie, Wang, & Zhao, 2020).

Environmental management initiatives also rely heavily on top management support, which includes encouraging change and employee engagement, implementing administrative actions, and disseminating an understanding of sustainability throughout the firm (Fisher, Geenen, Jurcevic, McClintock, & Davis, 2009). Top managers can serve as change champions to help the company implement an environmental management system. Top management support for EMS deployment is required to create an organizational culture that supports change initiatives (Latan, Jabbour, de Sousa Jabbour, Wamba, & Shahbaz, 2018).

H1: Top management support has a significant positive influence on green HRM practices

Environmental Orientation and Green HRM

Environmental orientation imitates organizational factors' identification and application of ethical ideals as a commitment to the natural environment (Chan, He, Chan, & Wang, 2012). Environmental orientation is a "corporate frame of mind" that influences and is influenced by every company activity(Nair & Ndubisi, 2015). According to a previous study, advocating the existence of a well-communicated environmental policy provides better clarity to an organization's environmental sustainability agenda (Yang, Sun, Zhang, Wang, & Cao, 2017). Furthermore, it has been claimed that implementing an effective EMS that incorporates company programmers and policies improves environmental sustainability (Boggia, Massei, Paolotti, Rocchi, & Schiavi, 2018).

As a result, establishing an environmental corporate culture that includes a system of environmental principles throughout the firm will improve environmental sustainability(Yang et al., 2017). As a result, there is a substantial correlation between environmental orientation and environmental sustainability we contend that environmental orientation can assist organizations in developing environmental concerns and, as a result of implementing green HRM practices (López-Gamero et al., 2008). Environmental orientation, for example, can assist employees to grasp the relevance of environmental issues and function as a check on the adoption of green HRM practices by promoting an effective environmental value system within the organization. People will be more dedicated to the principles imposed to safeguard the environment if they are more oriented to protecting the natural environment.

H2: Environmental orientation has a significant positive relation with green HRM

The mediating role of Green Human resource:

The HR department of a company is responsible for a variety of tasks, including recruiting and selection, training, and performance evaluation. In order to make the transition to green HRM, a company must set environmental goals. In the last twenty years, Green human resource management has gotten awesome consideration (De Stefano, Bagdadli, & Camuffo, 2018; Podgorodnichenko, Akmal, Edgar, & Everett, 2020). Green human resource practices are based on the long-term sustainability of achieving a social and economic balance that aligns with long-term organizational goals (Dumont, Shen, & Deng, 2017). The widespread implementation of green HRM practices has highlighted the fact that this whole framework spans many dimensions (Tang, Chen, Jiang, Paille, & Jia, 2018).

Top management support is essential to embrace green HRM practices to enhance environmental protection and sustainability. As a result with management support, a firm can encourage its employees to adopt green HRM practices which help a firm to achieve its environmental goals by promoting environmental behavior for environmental sustainability(Sharma & Gupta, 2015). The implementation of green HRM practices promotes employees' engagement in environmental sustainability. Environmental orientation is a key term in environmental management that refers to the understanding and integration of environmental concerns into a company's operations to address environmental difficulties(Nair & Ndubisi, 2015). An organization's environmental sustainability objective will be clearer if its environmental policy is adequately communicated to its employees (Aghelie, 2017). Green work engagement is a result of environmental orientation and strong human resource management practices. Green HRM will inspire employees, improve their ability to display positive green behaviors, and urge them to develop new ideas and solutions on a green level (Aboramadan, 2020).

H3: Green HRM mediates the relationship between environmental orientation and top management support with employee green engagement.

H4: Green HRM mediates the relationship between top management support and employee green engagement.

Green HRM and green work engagement:

Green HRM techniques would help to achieve green goals and foster great work habits (Jabbour & de Sousa Jabbour, 2016). Green human resource management practices such as reward, performance management, training, recruitment and selection influence employee behavior toward becoming environmentally conscious (Rani & Mishra, 2014). Green HRM may also play a motivating role for workers by both extrinsically and emotionally supporting their growth and adding to their career goals as a goal, which will increase employee commitment to work and especially green work engagement (Aboramadan, 2020; Arasli, Nergiz, Yesiltas, & Gunay, 2020). Green work engagement is a product of supervisory support (Likhitkar & Verma, 2017). Because such practices are viewed by workers as positive impacts and occurrences in a business, Green work engagement is an important result of green HRM (Ari, Karatepe, Rezapouraghdam, & Avci, 2020). Green work engagement is critical for environmental sustainability; this engagement may be achieved by the implementation of a green incentive system, green training, and supporting management practices (Jyoti, 2019).

H5: Green HRM practices positively link with Green work engagement

Employee Green engagement and environmental sustainability:

Both academic scholars and practitioners disagree on the definition of employee engagement. According to research, the phrase is used to refer to psychological states, behavioral engagement, and trait engagement at different periods (Macey and Schneider 2008). Employee involvement can be defined as the process of building employee enthusiasm and commitment in direction to increase worker participation at job (Cotton 1993). In the context of Green HRM, however, the terms employee participation and employee engagement are sometimes used interchangeably. Brio et al., 2007) all agree that workforces are one of the most important source of information, expertise, and innovation in Green HRM. Several important factors for including and engaging the workforce in environmental management and sustainability have been identified in the literature. The authors focused on the practice of including workers in Green HRM policies and practices, which led to, or was intended at, enhancing employee engagement, in the context of this research study. Employee engagement in environmental management has been shown to have a favorable correlation with environmental outcomes (Brio et al., 2007).

H6: Green work engagement has a significant positive relation environmental sustainability.

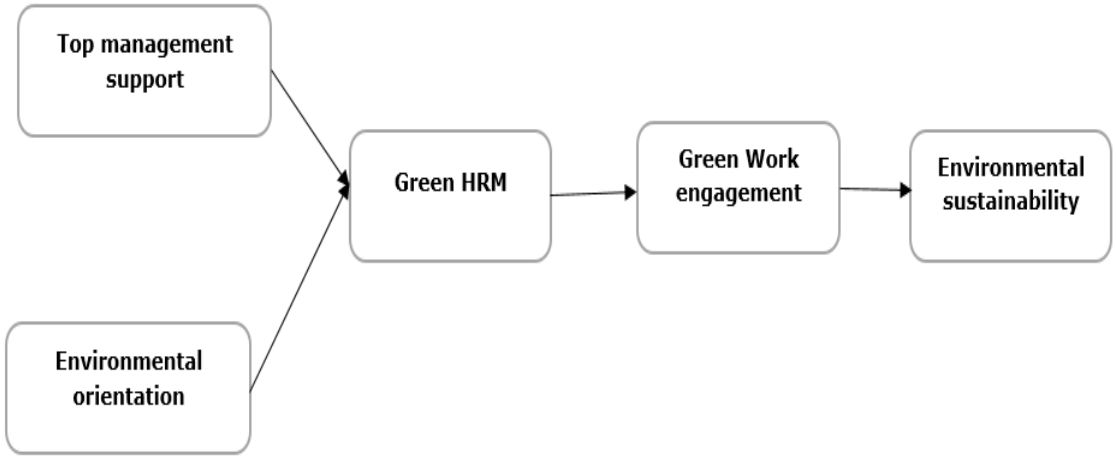

Fig: 1 conceptual Model

Material and Methods

Population and sample

In the present study, the population is manufacturing firms (leather, surgical) located in district Sialkot, Pakistan. Data has been collected from general managers, HR managers, and safety officers of these companies. Convenience sampling was used for the data collection. To reduce the likelihood of bias, each responder was given specific instructions regarding their involvement (Podsakoff & Organ, 1986).

Measures

Present research included variables such as Green human resource management practice, top management support, Environmental orientation, green work engagement, and environmental sustainability, all of these variables were measured using a five-point Likert scale to ratings from 1(strongly disagree) to 5 (strongly agree). Green human resource management six-item scale was used which was developed by (Dumont et al., 2017). The four items scale used to measure environmental orientation was developed by (Paillé et al., 2014). Four items scale used to measure top management support developed by (Daily, Bishop, & Steiner, 2007) , green work engagement scale developed by (Ababneh, 2021) and environmental sustainability scale used which was adopted from (Zhu & Sarkis, 2004) with cronbach alpha 0.873.

Data Collection

225 questionnaires were distributed to the HR managers, General Managers, and safety officers of different manufacturing firms. The response rate was 84.4 %(190) were returned. The finding showed that out of total respondents 87.3 % were male and 13.7% were female, 79.3% were aged from 30-35 years, 13.3% were aged from 36-40, and the rest of 7.3% were 41 and above older. In terms of education, 80.7% were graduated, and the rest were masters and above. In terms of service length, 11.3% has served less the one year, 75.3% had served 1-4 years, and 20% had been in service for 5-9 years. The sample f study included different industrial sectors as 7.3% from the surgical sector, 84.7% from leather manufacturing firms, and reaming 8% from the sports manufacturing industry.

Results and Data Analysis

The Partial Least Square (PLS) technique with Smart PLS was used to test the research model. This method is extensively utilized in practically all social science areas, not only in management research (Hair, Sarstedt, Pieper, & Ringle, 2012). PLS is a potential approach for prediction since both measurement and structural models may be evaluated in terms of their predictive validity (Henseler, Hubona, & Ray, 2016). It enables the simultaneous examination of numerous constructs (Hair et al., 2012). Furthermore, this technique is very beneficial when working with small sample size and examining mediation connections (Peng & Lai, 2012).

Measurement Model Assessment

Researchers used smart PLS for data analysis in this study since it is widely utilized as a modern evaluation method in business research. To evaluate the convergent validity by loading. Table 1 and Fig, 2, explain the Loading which was above .50 after deleting the items whose loading was below .50. Similarly, all constructs have composite reliability above the recommended value of .70. And all the AVE values are above from recommended value which is.50. On the whole, there was no issue in the present study regarding discriminant validity.

Table 1
Convergent validity

Constructs	Items	Loadings	Alpha	C.R	AVE
Environmental orientation	EO1	0.861	0.808	0.874	0.636
	EO2	0.858			
	EO3	0.779			
	EO4	0.678			
Environmental sustainability	ES1	0.914	0.938	0.956	0.844
	ES2	0.946			
	ES3	0.933			
	ES4	0.882			
Green HRM	GHRM1	0.832	0.785	0.854	0.559
	GHRM2	0.884			
	GHRM3	0.842			
	GHRM4	0.733			
Green Work engagement	GWE1	0.893	0.945	0.957	0.788
	GWE2	0.908			
	GWE3	0.922			
	GWE4	0.914			
	GWE5	0.9			
	GWE6	0.781			
Top management support	TMS1	0.907	0.947	0.962	0.863
	TMS2	0.948			
	TMS3	0.946			
	TMS4	0.916			

Note: 1 item has been deleted from the green HRM

Table 2 showed that there was showed heterotrait-monotrait ratio which validated the discriminant validity .The values of HTMT ratio must be less than the value of .85, hereafter there has been discriminant validity established (Kline et al., 2012). On the whole, there is no issue regarding discernment validity.

Table 2
Discriminant Validity (HTMT Ratio)

	EO	ES	GHRM	GWE	TMS
EO					
ES	0.708				
GHRM	0.575	0.537			
GWE	0.669	0.776	0.476		
TMS	0.734	0.763	0.539	0.712	

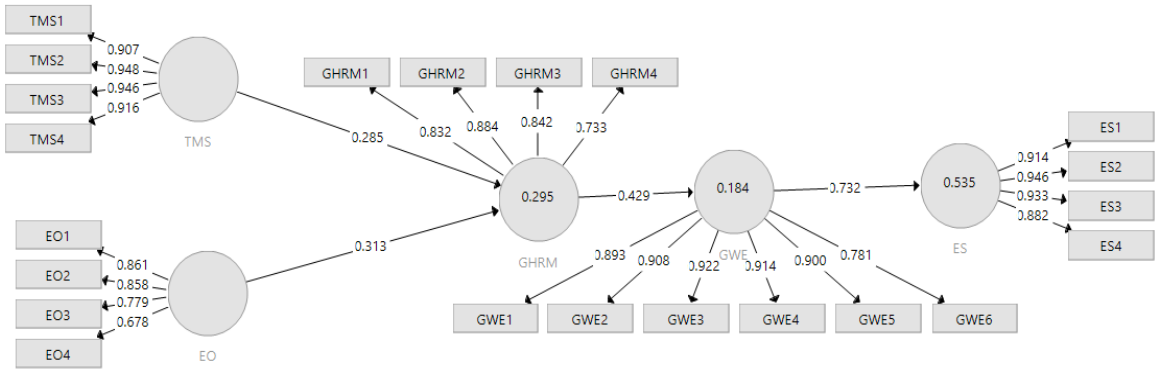

Fig. 2 Measurement Model Assessment

Structural Assessment Model

Structural modeling technique was adopted to test the hypothesis. Path coefficients, T values are computed to explain the relationships of the hypothesis. The bootstrapping procedure was adopted for mediation effect. Table 3 showed that H1envirnomental orientation is significantly associated with green HRM (β= 0.313, t= 3.162, L.L= 0.85, U.L= 0.917 and P-value is 0.002) therefore H1 supported, the result had shown that H2 top management support is positive link with green HRM (β=0.285, t=3.138, L.L=0.55, U.L= 0.716 and P value=0.002), same like this H3 green HRM positively associated with green work engagement (β=0.429, t=7.336, L.U=0.3,U.U=0.795 with P value=0.0001) therefore H3 supported, besides this H4 green HRM, mediated the relationship of top management support and green work engagement (β =0.122, t=2.62, L.L=0.01, U.L=0.395 with p value=0.001) H4 is supported. H5 green HRM mediated the association with environmental orientation and green work engagement (β=0.134, t=2.811, L.L= 0.042, U.L=0.21 with p-value =0.005) so H5 is supported. Last but not least H6 green work engagement is positively link with environmental sustainability (β =0.732, t=18.475, L.L=0.02, U.L=0.524 with P value= 0.0.00) H6 is supported.

Table 3
Path Analysis

	Relationships	Beta	S.D	T values	P Values	L.L	U.L	Decision
H1	Environmental orientation -> Green HRM	0.313	0.099	3.162	0.002	0.85	0.917	supported
H2	Top management support --> Green HRM	0.285	0.091	3.138	0.002	0.55	0.716	supported
H3	Green HRM --> Green work engagement	0.429	0.058	7.336	0	0.63	0.795	supported
H4	Top management support --> green HRM --> Green work engagement	0.122	0.047	2.62	0.009	0.01	0.395	supported
H5	Environmental orientation --> GHRM --> Green work engagement	0.134	0.048	2.811	0.005	0.042	0.221	supported
H6	Green work engagement --> Environmental sustainably	0.732	0.04	18.475	0	0.02	0.524	supported

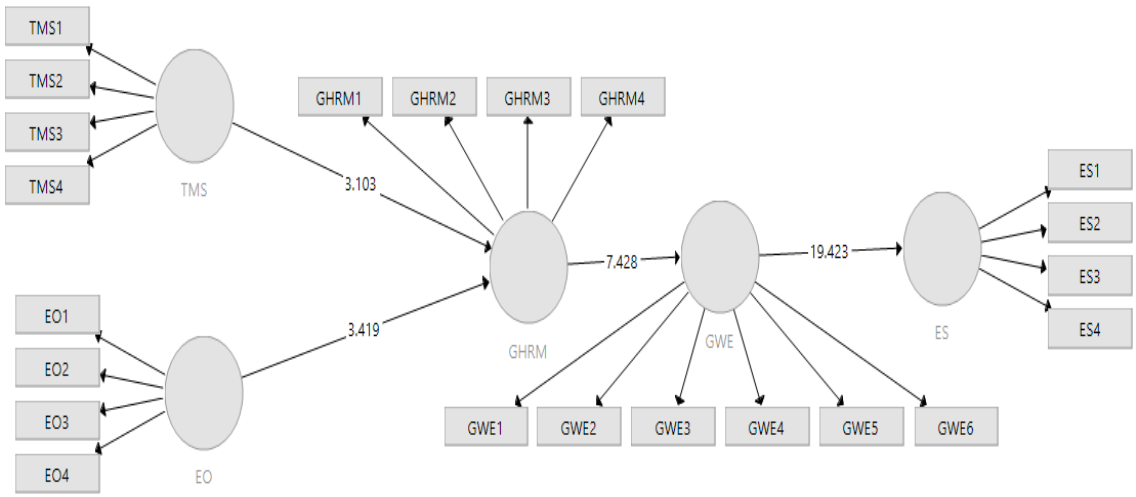

Fig. 3 Structural Model Assessment

Discussion

At First, as predicted, the findings revealed that top management support and environmental orientation have an impact on green HRM, confirming the first two hypotheses. The findings of the present study are in line with the previous study about that the support of top management is necessary for the execution of HR policies and other management programs (Colwell & Joshi, 2013; Yusliza et al., 2019). Furthermore, the findings support prior claims for the importance of environmental orientation in the implementation of environmental management programs (Chan et al., 2012; Tiwari, 2017). Moreover, findings related to green HRM has a positive link with green work engagement, these findings are consistent with other studies that when a firm adopts green HRM practices and policies then employees will show more involvement and engagement towards environmental sustainability (Dumont et al., 2017; Sharma & Gupta, 2015). The result of hypothesis 3 is consistent with previous research that top management support for environmental management systems as green HRM practices will positively affect employee's behaviors such as engagement in environmental-related activities to accomplish organizational goals(Daily et al., 2007).

Additionally, the result demonstrates that green HRM has a mediating influence on the environmental orientation and green work engagement, which was hypothesis 4 of this study. As the findings support prior claims that environmental orientation assist work force to recognize the importance of environmental degradation and its protection , this can promote awareness about adoption and implementation of green HRM practices for environmental sustainability (Cherian & Jacob, 2012; Daily et al., 2007). Lastly, the results approve the claim of hypothesis 6 that employees green work engagement enhances environmental sustainability. These results in line with preceding research that employee's engagement in environmental related activities enhance the environmental sustainability (Ari et al., 2020).

Firstly the present study is aimed at filling the research gap and automatically gaining insights into the multifarious trend of and how it relates to environmental performance and sustainability. Secondly, that knowledge is one of the key mechanisms that progress environmental sustainability consequently, the present study furthers the literature by investigative the positive role played by the Green HRM practices and employees' green work engagement. Thirdly the function of green HRM in mediating the relationship between top management support and environmental orientation with environmental sustainability. Even though researchers have focused on the critical role of HRM practices in enhancing environmental sustainability in recent years (Paillé et al., 2014).

Green HRM practices implementations have become important in developing countries like Pakistan to gain a competitive advantage in the course of environmental sustainability. Pakistan's production and manufacturing sector is causing ecological problems by releasing CO2, diminution of natural resources, too much usage of electric power. Green HRM practices can smooth the progress of firms in saving resources by increasing activities at the workplace to protect the environment. The efficient Green HRM practices play a vital role in promoting environmental performance. Organizations must integrate environment welcoming activities and commitment in their HRM practices. For this purpose HR managers and management should consider environmental stability during the design of a job description and recruitment. At the stage of selection and interview, the firm must ask environmental issues and questions to recognize potential employee's level of commitment, awareness, and environmental knowledge.

Conclusion

Though the present research presented prized theoretical and practical implication. Firstly current study has the limitation that the manufacturing sector is addressed, future studies need to address this model and framework in other sectors as the pharmaceutical and chemical industry which will ensure the present study results in other sectors. Secondly, the current research was conducted in developing economy as Pakistan future research should conduct a country having a cultural difference in developing world. Thirdly for future researcher they should consider different mediator in the present study model such as organization citizenship behavior, green creativity and green self-efficacy. There is opportunity to check impact of their variable on green HRM such as compliance with regulation and standards, stakeholder pressure (Abdel-Maksoud et al., 2016) and consumer demand (Waxin, Knuteson, & Bartholomew, 2019). In conclusion this research contributes to our understanding of a novel causal mechanism in the manufacturing sector by building a research model to investigate the antecedents and results of green HRM. Data investigation demonstrated that green HRM plays a critical role, either as a result of top management support and environmental orientation or as a driving force for green work engagement, which has a beneficial impact on environmental sustainability.

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