

Responsible Leadership and Environmental Awareness: Factors for Environmental Performance

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Abstract

The research aims to investigate the influence of responsible leadership on environmental performance. Previously, the environmental performance was investigated from different leadership styles but there is a dearth of research on responsible leadership. Thus, this research has focused on responsible leadership and aims to investigate the effect of responsible leadership on environmental performance and employee environmental awareness. Moreover, it aimed to investigate the mediating effect of employees' environmental awareness between responsible leadership and environmental Performance. Furthermore, it has determined the moderating role of perceived organizational support between employee's environmental awareness and environmental performance. The data were collected from employees of manufacturing SMEs using SPSS and SMART PLS 3.8. The results highlighted that employees' environmental awareness mediates the relationship of responsible leadership and environmental performance and perceived organizational support also moderates employees' environmental awareness and environmental performance.

Keywords: Responsible Leadership, Environmental Performance, Employees' Environmental Awareness, Perceived Organizational Support.

INTRODUCTION

In this dynamic era of competition, business dynamics are changing globally. Now to make a profit and gain a competitive edge, every business must be responsible for its effect on the environment (Kraus et al., 2020). The lack of awareness about environmental protection has become a cause of adverse environmental management in underdeveloped nations, and needs more consideration (Liu et al., 2019). Moreover, besides creating jobs, the manufacturing sector is also liable for environmental issues like the environmental imbalance and reduction of natural resources (Kraus et al., 2020; Chierici & Graziano, 2020). Stakeholders demand that manufacturing enterprises start practicing resource efficiency to decrease greenhouse gases such as fly dust, carbon monoxide, and carbon dioxide, which are produced as production is being done (Aftab et al., 2022). Increasing global warming has encouraged businesses to decrease their opposing impact on the environment (Adomako et al., 2021). To reduce the negative impact not only on society but also on environment, the manufacturing sector is required to restructure its organizational policies (Yu et al., 2017). Moreover, organizations must include ecological issues into their strategic plans for maintaining environmental performance due to the increasing in environmental damages (Yang et al., 2019).

Companies are becoming aware that decisions they make on procedures have an impact on environmental performance and social performance (Kraus et al., 2020; Sarkis, 2001). Businesses which maintain their environmental obligations in operations can force other businesses to take environmental obligations (Rui & Lu, 2021) so roles of leaders become vital as they impact the company's EP (Akram et al., 2022). Leaders serves as a role model for subordinates in the organization, influencing their actions by personal contacts and processes of social learning where employees learn that their boss appreciates and cares for achieving industrial goals (Robertson & Carleton, 2018). When employees feel they are receiving appropriate support from the company, they are more willing to adopt environmental behaviors (Paille' & Raineri, 2016) and workers that are given environmental education and awareness learn how their actions and decisions can affect the environment (Safari et al., 2018). For achieving individual, group and organizational level outcomes leaders are crucial (Ying et al., 2020). Responsible leaders care the organization's investors and benefits by managing administrative measures (Witt & Stahl, 2016). The environment is a crucial shareholder in responsible leadership (Pless, 2007; Miska et al., 2014). Responsible leaders will encourage workers to take awareness in taking responsibility for the environment (Pless, 2007; Miska et al., 2014), these leaders can make an environmentally friendly work environment by implementing reward and punishment policies that address environmental issues (Zhang, et al., 2021).

A few decades ago, businesses, researchers, and environmental authorities ignored the environment to a large extent, as they thought products made by their enterprises didn't have a substantial impact on environment (Kraus et al., 2020). Environmental deterioration is spreading to be a world issue. Environmental authorities, industry leaders, and academics increasingly agree that resource depletion, global warming, air pollution, water level rise, smog and the use of hazardous products are the key

contributors for loss and decline of the environment (Kraus et al., 2020). Organizations are under severe pressure from stakeholders to decrease the environmental impact of the manufacturing process (Yu et al., 2017).

In developing nations Textile industry required to evaluate, observe, and expand management-related activities as they face various types of environment-related problems (Rehman et al., 2016). Small and medium-sized enterprises (SMEs) have a significant impact on the environment. Thus, Environmental issues must be effectively addressed if SMEs are to improve their performance. However, SMEs will require support and role models to enhance their environmental performance (Hussey, & Eagan, 2007). In terms of cotton production, Pakistan ranks fourth worldwide and textile business make up around 60% of all exports from the country (Hayat, Hussain, & Lohano, 2020). The country's increasing requirement for textile items has led to an expansion in textile factories and its wastewater that is polluting the environment. Textile industry is the second greatest source of Pakistan's export revenue and Pakistan's economy is dependent on the textile industry, so clothing and textile industries are vital for country's economy. Textiles buyers around the world are becoming more environmentally concerned. They want their vendors to take environmental protection measures. Thus, as a result, the demands of global customers on the environment influence textile manufacturing enterprises so that the textile industry's environmental problems have a significant impact on the decreasing of its exports (Amjad et al., 2021).

Performance is one of the most important issues for every organization. It is viewed as a requirement that employees must fulfil in full or in part in exchange for their compensation (Sabir et al., 2022). Pakistani manufacturing enterprises is using outdated construction techniques due to numerous problems like shortage in capital, rising prices, as well as absence of creative and imaginative technologies. Due to these factors Pakistani industrial companies' priorities economic growth over other social and environmental concerns to build infrastructure, generate jobs, and combat poverty. Whereas manufacturing companies in industrialized nations are encouraged by these motivating factors to prioritize active environmental management (Aftab et al., 2022). Thus, the purpose of this research is to investigate the effect of responsible leadership on environmental performance and employee environmental awareness. Moreover, it aimed to investigate the mediating effect of employees' environmental awareness between responsible leadership and environmental Performance. Furthermore, it has determined the moderating role of perceived organizational support between employees' environmental awareness and environmental performance.

Literature Review

Relationship between responsible leadership and employees' environmental awareness

An encouraging environment and leadership support inspire staff to act on environmental actions like designing environmentally friendly goods using fewer resources and decreasing pollution. The leader's role is to manage the dynamics of people and how their actions affect one another towards the organization's goals

(Farrukh et al., 2022). Responsible leadership can enhance the employees' abilities to recognize and solve environmental issues by emphasizing new approaches to solving environmental issues (Walumbwa et al., 2008). Employees' logic of autonomy or personal will lead them to adopt environmentally friendly values and goals. Employees may also in agreement with leadership regarding the importance of environmental sustainability. In other words, responsible leadership inspires employees to match their environmental protection behavior with their values, interests, and goals, enhancing the encouragement to protect the environment (Han et al., 2019). Gaining a deeper understanding of the environment for the sake of every living thing must survive, and most significantly, how they play a key role in protecting it may be the basis of a more positive involvement with the environment on the part of employees (Darvishmoteval et al., 2022). Social learning theory (SLT) contends that individuals acquire knowledge and behavior through the process of observation, imitation, and reinforcement of others' actions within their social environment (Bandura, 1986). By introducing environmental awareness in their employees, Responsible leadership can encourage them to develop a favorable attitude towards the environment (Ojo et al., 2020). Thus, the following hypothesis is developed:

H1. Responsible leadership has a positive impact on employee environmental awareness.

Relationship between employees' environmental awareness and environmental performance

The awareness and familiarity with environmental problems varies from individual to individual (Farrukh et al., 2022). Many organizations have implemented environmental management strategies to enhance their environmental performance, and many have discovered that doing so led to financial savings and reduced risks. Despite this, several obstacles may prevent an organization from becoming responsible and environmentally aware. Organizational culture and change management are examples of these obstacles. To overcome these obstacles and successfully implement an environmental management initiative, the literature suggests that it is crucial for organization members to understand the environmental impacts and policies of the organization through participation in environmental awareness training programs that produce lasting awareness and dedication (Perron, Côté, & Duffy, 2006). The most important step in training people to deal with environmental problems is generally acknowledged to be environmental awareness, environmental awareness is generally recognized as the foremost vital step in promoting their concern for and insight into the environment (Fu et al., 2020).

Environmental awareness involves taking corrective measures to decrease the effect of human behavior on the environment. To implement the action successfully, awareness is considered a crucial component. Employees who are more environmentally aware will be more likely to engage in environmental protection activities. Employees who are recruited and selected, with an eye towards environmental awareness and competence are more likely to take part in environmental performance (Anwar et al., 2020). Employees awareness is the result of experience and habits perceived through a variety of media (Koo et al., 2015). The concept of awareness develops with one's

cognitive state, aligned with their feelings and thoughts regarding various activities, awareness of environmental approaches may encourage people towards adopting environmental efforts (Asadi et al., 2019).

An awareness of environmental degradation caused by human activity can fundamentally affect a person's beliefs about protecting the environment. Thus, environmental concerns may affect one's perception towards environmental actions (Ojo et al., 2020). When employees perform these activities for example, purchasing used tools and turning off PCs while not in use, they help the organization in reducing their carbon emissions and energy consumption and improving environmental performance (Ojo et al., 2020).

H2. Employees Environmental awareness is positively related to environmental performance.

Relationship between Responsible leadership and Environmental Performance

RL is actively engaged with their followers, looking for their feedback and input in decision-making and adjusting their leadership style as per requirement. (Kelemen et al., 2023). This can create a more open and inclusive culture, where employees feel valued and empowered and such initiatives encourage them towards environmentally friendly behavior (Shah et al., 2023). RL prioritizes building relationships and creating a collaborative environment (Fahlevi et al., 2022). RL led by an example for their followers by adopting and implementing sustainable practices in their organizations and encouraging their employees to exhibit environmental friendly practices in their actions and decisions (Vila-Vázquez et al., 2023). By prioritizing environmental concerns, RL is mainly involved in building a culture of sustainability within the organizations (Tian, 2021). With the same notion, by placing the environmental friendly practices, organizations can enhance their image, goodwill and reputation among all stakeholders including attracting the customers who are environmentally conscious and care for the environment (Huang et al., 2021). According to Schein (1995) managers play role models to inculcate organizational culture among employees. Therefore, RL is the most pivotal factor in a firm's success in implementing green practices (Marhaeni et al., 2023). It has desirable consequences for different parts of organizations. For instance, RL positively impacts an organization's performance (Wang et al., 2015). Responsible leadership is essential for enhancing firm performance toward society, the environment, and upcoming generations by enhancing employees' positive behaviors at work (Sze'kely & Knirsch, 2005). The immoral behavior of followers is limited by responsible leadership (Voegtlin, 2011). Responsible leadership emphasizes taking responsibility seriously and putting excellence first when operating responsibly (Walsh et al., 2003). Responsible leaders' priorities are a moral environment (Yasin et al., 2021). Moreover, they are ethically concerned about their environmental responsibilities (Han et al., 2019) which is essential for environmental performance. Therefore, the following hypothesis is developed:

H3. Responsible leadership has a positive impact on Environmental performance.

Mediation effect of employees' environmental awareness between responsible leadership and environmental performance

Individuals with a high level of environmental awareness are more likely to act in an environment friendly way, as demonstrated by (Sekhokoane et al., 2017). Environmental awareness is therefore one of the most important requirements for adopting environmental behaviors (Fu et al., 2020). People that are higher willing to sacrifice for the environment displayed extra environmentally behavior (Iwata, 2002). By striking a balance through managerial measures, responsible leaders pay more attention to the needs of the organization and its shareholders (Voegtlin, 2011; Witt & Stahl, 2016). The natural environment is taken into account as a crucial stakeholder by responsible leadership (Pless, 2007). Employees will become aware of the need to protect the environment through responsible leaders (Miska et al., 2014).

H4. Employees' environmental awareness mediates the relationship between responsible leadership and environmental performance.

Moderation Effect of perceived organizational support on relation between environmental performance and employees' environmental awareness

In organizations, internal support is frequently an indication of the manager's desire to promote fair exchanges with personnel (Kurtessis et al., 2017). Management's support could increase employees' behaviour at work (Fauzi et al., 2019). When workers observe adequate support from the leader, they are more likely to understand the need for and engage with environmental practices (Kura, 2016). Employees who realize how their choices and activities have an influence on environmental degradation follow environmental practices as a sign of their environmental awareness (Ates, 2020; Radu, 2016). It is essential for businesses to support their employees' active participation, thus enabling the organization to progress efficiently (Lam et al., 2014). Employees who are involved in environmental concerns have a tendency to implement environmental behaviors at work, like recycling paper, printing on both sides of a sheet of paper, and saving assets like electricity and water (Bissing-Olson et al., 2013). POS refers to connections in the workplace and may be defined by applying the social exchange theory since it also considers the concept of reciprocity among coworkers and the company (Sivalogathan & Hashim, 2013). The encouragement of leaders of the organization create value for employees to do their best towards organizational goals (Zhang et al., 2017). The following hypothesis is developed to determine the moderating role of POS.

H5. Perceived organizational support moderates the relationship between employees' environmental awareness and environmental performance.

Based on the literature gaps and the hypothetical statements discussed above, the following research model is developed (See Figure 1).

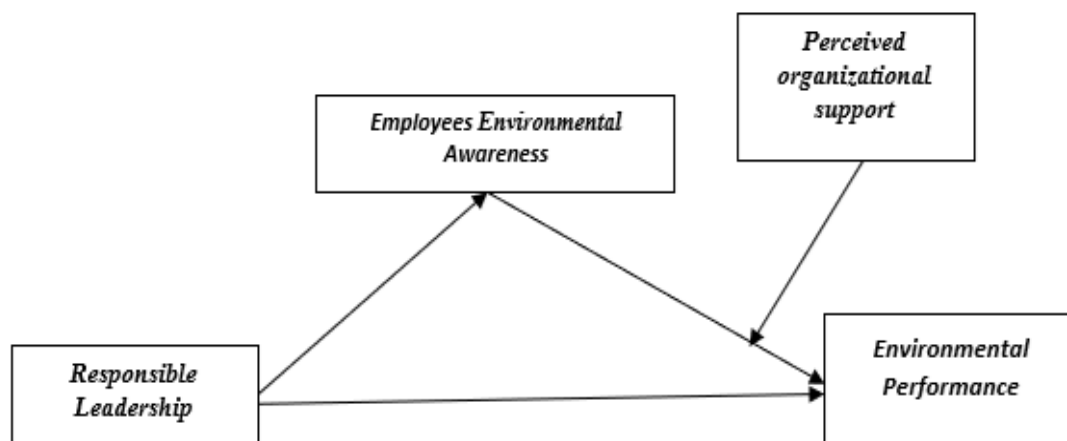


Figure 1. Theoretical Framework

Methodology

The research is quantitative in nature, and the data were gathered from employees of manufacturing SMEs in the city of Faisalabad through an online questionnaire as the city is famous for its textile sector and SMEs in Pakistan. 3.8 version of Smart PLS is used to examine the data. Descriptive analysis is used to summarize the demographics background of the respondents. To validate the measurement of the proposed model and test the proposed Hypothesis SmartPLS3 is used. PLS-SEM was used for the path analysis.

Results

Results of the empirical part of the study are given in detail in this chapter. A brief overview of the software used and the study's demographic profile is discussed in the first section of the chapter; the second section provides the structural and measurement model results. SmartPLS is used to interpret the statistical output of the chapter using the study results as a basis for the conclusion. In the first stage of data analysis, the demographic characteristics were examined (See Table 1).

Table 1. Demographics

Table	Demographic Analysis		
	Item	Total	%Age
Gender	Male	133	63
	Female	77	27
Age	18- 25	55	26
	26-33	67	32
	34-41	49	23

	Above 41	39	19
Qualification	Matric	70	33
	Intermediate	50	24
	Graduation	67	32
	Masters	23	11
Marital Status	Married	173	82
	Unmarried	37	18
Experience	01-05 Years	77	37
	06-10 Years	55	26
	11-15 Years	42	20
	16 years and above	36	17

The reliability and validity were evaluated with the measurement model. Construct reliability is measured through the composite reliability (Henseler et al., 2014). Composite reliability is based on the approximate of total reliability. (Hair et al., 2014), suggests that the threshold value of composite reliability is set at 0.6. The table below shows the value of composite reliability (CR) and all values are observed above the threshold value of 0.6. So, all the constructs were reliable and meet the minimum criteria.

Table 2. Construct Reliability Analysis

Variable	Cronbach's Alpha	CR
Responsible Leadership	0.796	0.860
Employees Environmental Awareness	0.817	0.871
Perceived Organizational Support	0.858	0.897
Environmental performance	0.810	0.863

Convergent validity is used to measure the relationship among different construct items of a model. The key characteristic of convergent validity is to check the consistency of items with each other, especially the common variance shared by the items of different variables. Convergent validity is measured through confirmatory factor analysis (CFA). CFA measures the factor loading (FL) and average value extracted (AVE). The threshold value for AVE is 0.5 (Hair et al., 2014). All the AVE values of this study have been measured above 0.5, ranging from 0.528 to 0.715. For factor loading, the threshold value is 0.6 (Hair et al., 2016). The factor loadings of each item of the variables found to be higher than 0.6 (See Table 3).

Table 3. Outer loading and Average Variance Extracted (AVE)

Constructs	Factor Loading	AVE
Responsible Leadership		
RL1	.680	

RL2	.786	.550
RL3	.784	
RL4	.677	
RL5	.779	
Employees Environmental Awareness		.637
EEA1	.816	
EEA2	.772	
EEA3	.757	
EEA4	.664	
EEA5	.781	
Perceived Organizational Support		.577
POS1	.726	
POS2	.806	
POS3	.870	
POS4	.769	
POS5	.811	
Environmental performance		.531
EP1	.681	
EP2	.725	
EP3	.622	
EP4	.742	
EP5	.769	
EP6	.749	

Divergent validity is another name for discriminant validity, that states constructs a stronger relationship with the measures other than discriminant constructs (Hair et al., 2014). AVE divisors should have a greater square root value than their variances with each other according to the method. All the values are greater than the shared variance. Table 4 presents the discriminant validity.

Table 4. Discriminant validity

	Employees Environmental Awareness	Environmental Performance	Perceived Organizational Support	Responsible Leadership
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Employees Environmental Awareness	0.759			
Environmental Performance	0.702	0.716		
Perceived Organizational Support	0.687	0.563	0.798	
Responsible Leadership	0.679	0.741	0.582	0.743

The criterion created by (Henseler et al., 2014) (i.e., HTMT) is another technique to guarantee discriminant validity. The cut of value is 0.9. The result shows that all the values are less than 0.9. HTMT criterion presented in Table 5.

Table 5. HTMT criterion

	Employees Environmental Awareness	Environmental Performance	Responsible Leadership
Employees Environmental Awareness	0.834		
Environmental Performance	0.777	0.636	
Responsible Leadership	0.826	0.898	0.886

SEM implied via SmartPLS is used to measure the path coefficient. Bootstrapping methods is used to measure the path significance. R-square values, along with the path analysis is calculated by bootstrapping. SmartPLS can predict up to 5000 sample size. The confidential interval of 95% significance or the t value > 1.96 with two-tailed test. (Schlittgen et al., 2016). The $R^2 > 0.2$ is considered acceptable and reliable. For the current research, R^2 values are seen to be higher than the cutoff threshold i.e. 0.2. For EEA $R^2=0.461$, EP $R^2 =0.632$. Table 6 presents the R^2 values of present study and figure 2 shows the smartpls output.

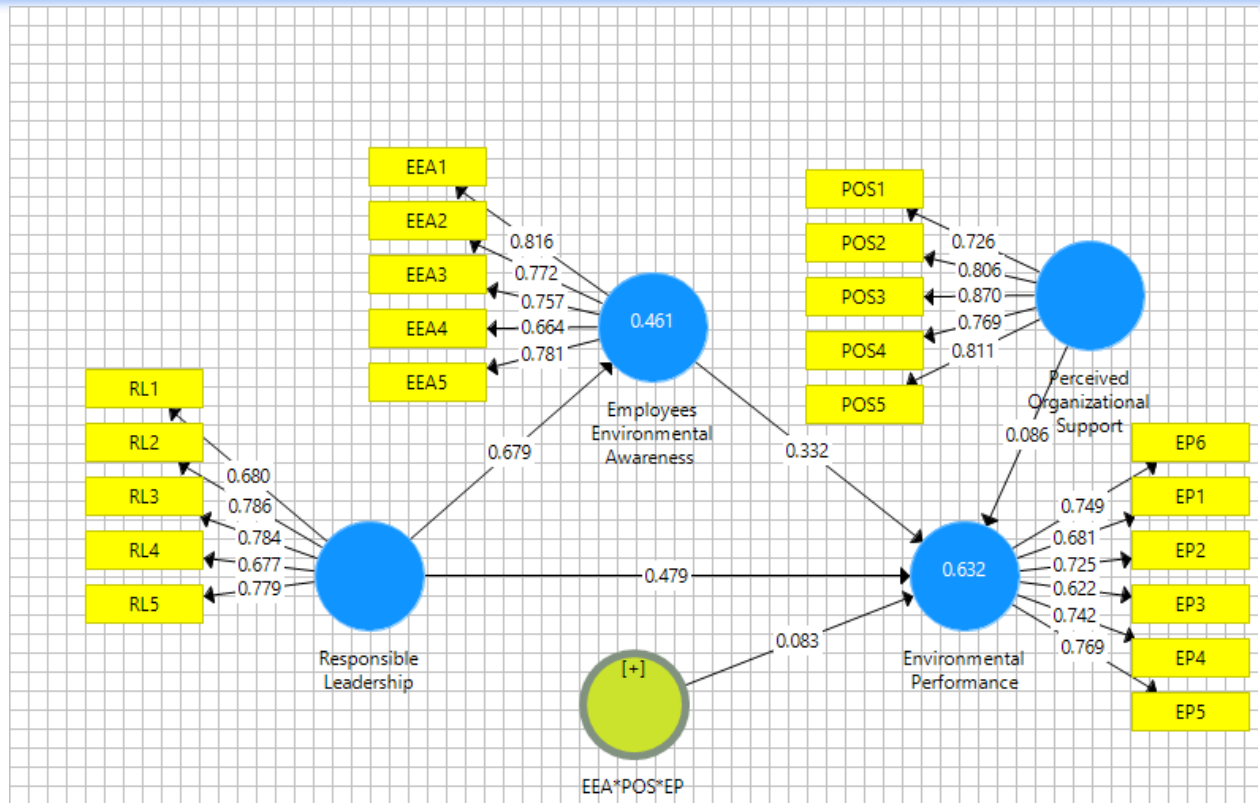


Figure 2. SmartPLS algorithm output shows path analysis, R2 and factor loading

Table 6. Values of R²

Items/Constructs	R Square	R Square Adjusted
Employees Environmental Awareness	0.461	0.459
Environmental Performance	0.632	0.628

Path analysis of the study measured through the SmartPLS algorithm. All the values meet the minimum criteria of 0.095% interval or a bootstrapping value of 1.96. Table 7 presents the path analysis results.

Table 7. Path analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
EEA*POS*EP -> Environmental Performance	0.083	0.081	0.024	3.498	0.001
Employees Environmental Awareness -> Environmental Performance	0.332	0.333	0.052	6.337	0.000
Responsible Leadership -> Employees Environmental Awareness	0.679	0.679	0.026	26.330	0.000
Responsible Leadership -> Environmental Performance	0.479	0.479	0.044	10.977	0.000

H1 indicates relationship between RL and EEA. Statistics show that RL has significant positive influence of EEA. Hence H1 is approved ($\beta=0.679$). H2 indicates relationship between EEA and EP. Statistical show that RL makes significant positive influence of EEA. Hence H2 is approved ($\beta=0.332$). H3 indicates relationship between RL and EP. Statistical shows that RL makes significant positive influence of EEA. Hence H1 is approved ($\beta=0.479$).

Discussion

The first hypothesis was accepted and showed the significant relationship between RL and EEA. The findings of the current research have been supported by past literature. Leadership plays a vital role in motivating employees to adopt a positive outlook towards environmental efforts. opinions and values of the employees are affected by the behavior of the leaders (Cairns et al., 2010). Leaders that instill environmental awareness among their staff members encourage them to look after the environment (Ojo et al., 2020). Responsible leaders set a good example for their team members and raises employees' awareness of responsibility (Yaffe & Kark 2011). Achieving business objectives while promoting environmental awareness is what responsible leaders encourage their followers to accomplish (Rehman et al., 2023). Employees with positive attention for environment would use the appropriate tools and take action to reduce emissions and pollution so improving the organization's environmental performance (Molla et al., 2014).

The first hypothesis was accepted and showed the significant relationship between EEA and EP. According to the results, EEA had a positive and significant impact on EP.

Thus, it was accepted. In this way, the 2nd objective of the study was approved, which support earlier studies. Employees who aware of environmental issues are more likely to act environmentally, as individuals become more aware of environmental issues, processes, and solutions, they become more concerned to participate in protecting the environment. The most important factor in environmental performance is employees' environmental awareness (Farrukh et al., 2022). This confirm how the study's findings are consistent with previous study. Smart PLS hypothesis 3's findings demonstrate that RL has a positive and significant effect on EP. According to the results of present research, previous research has also confirmed similar findings, and the results of this study are also supported by the outcomes of the research by Doh and Quigley (2014) who argued that environmental issues and environmental performance can be addressed through responsible leadership because RL go beyond "no harm" to contribute to value creation in relation to ripple bottom line (economic, environmental and social). The main difference between responsible leadership and other leadership styles is that it focuses on the environmental performance, together with the rational management of the relationships between individuals and their society (Han et al., 2019). Responsible leadership can reduce employees' confusion in terms of organizational goals by encouraging workers to contribute to the sustainability and legitimacy of the business (Seeger & Ulmer 2003).

Hypothesis H4 was also accepted. It was confirmed that EEA acted as a mediator in the relationship between EP and RL. The results are consistent with previous studies as Santhosh & Baral (2015) stated that organizations have been under intense pressure to pay attention to environmental regulations in order to be environmentally friendly over the long run. To minimize their negative environmental impacts, organizations must either follow the environmental regulations or take steps to reduce the harm that their operations cause to the environment. Positive working environments come from leaders who establish fundamental principles that emphasize treating others with respect. Employees follow their leaders' directions, and leaders develop their values and increase their performance (Akram et al., 2022). A responsible leader sets the organization's guiding rules and objectives as well as a more comprehensive outline of acceptable human, social, and environmental factors (Kets de Vries et al., 2004) and sends a message to employees that promoting environmental values is of the utmost importance (Yaffe & Kark, 2011). According to the prior literature, employees' green values, norms, cultures, motivations and behavior play an important role in producing environmentally friendly goods, services and management systems that increase organizations' EP and competitiveness in a highly competitive market (Graves & Sarkis, 2018). Manufacturing industries must play a vital role in environmental protection as they use many resources from the environment (Santhosh & Baral, 2015). The last hypothesis investigated the moderating role of POS in the relationship between EEA and EP. The Smart PLS results provide solid evidence to support this hypothesis. According to hypothesis 5, POS's moderation effect was favorably significant and accepted. Previous studies provide support for the results of this study. According to Karatepe (2012), perceived organizational support has an impact on both job and organizational performance. An employee who feels additional support from their

organization likely performs better than an employee who does not (Eisenberger, 1990). Through the help of in-service training programs, the activities that aim at protecting the environment and addressing the natural problems can help improve environmental awareness (Otto & Pensini, 2017). Suppose employees have feelings of interest, sympathy, and attachment to their working environment and the destination they live in. In that case, it is more likely that they will exhibit stronger environmentally responsible behavior (Keles et al., 2023). Thus, perceived organizational support strengthens the relationship between employees' environmental awareness and environmental performance.

Conclusion

The research has highlighted the significance of responsible leadership on environmental performance, both directly and indirectly, through the employees' environmental awareness. Additionally, the link between employees' environmental awareness and environmental performance was investigated with the moderating role of perceived organizational support. The findings highlighted the significant influence of responsible leadership on environmental performance and employee environmental awareness. Moreover, results highlighted the mediating effect of employees' environmental awareness between responsible leadership and environmental Performance. Furthermore, the findings supported the moderating role of perceived organizational support between employees' environmental awareness and environmental performance.

Limitations and Recommendations

The research has developed a comprehensive framework to help SMEs in enhancing their environmental performance. However, it has some limitations that future studies could consider. First, the study has examined responsible leadership and employees' environmental awareness as antecedents of environmental awareness, and future studies can focus on other factors that can help SMEs to gain a sustainable competitive advantage. Secondly, the research has only focused on the SMEs in Faisalabad, but further research can be conducted on the MNEs.

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