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## STAKEHOLDER PRESSURE AND ENVIRONMENTAL PERFORMANCE: THE ROLE OF SUSTAINABLE ENVIRONMENTAL MANAGEMENT PRACTICES IN AN EMERGING ECONOMY

### ABSTRACT

This research paper aims to study the mediating role of sustainable environmental management practices (SEMPs) in the relationship between internal and external stakeholder pressure (SP) and environmental performance (EP) in red-category industries in India. We have looked up the literature on SEMPs, SP, and EP that was most frequently cited and may impact this relationship. The sample size was 169 red-category industries in India and structural equation modeling (SEM) was used for data analysis. Our research is one of the few studies investigating the mediating role of SEMPs on the relationship between internal and external SP and EP of polluting industries in the Indian context. This study will focus not only on the manufacturing sector but also on the service sector. Thus, our research work significantly contributes to the literature and aids in the decision-making process of managers, experts, and government personnel engaged in this field.

*Keywords: Environmental performance, sustainability, environment, operation management, environmental management practices, pollution, stakeholder*

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## INTRODUCTION

Environmental sustainability and human well-being are closely related. Ecological pollution occurs due to the excessive utilization of natural resources, a large population and livestock in crowded areas, the utilization of agrochemicals, the establishment of factories, the use of automobiles, the combustion of fuel, etc. It is acknowledged that industries are the main cause of resource depletion and environmental pollution (Singh et al., 2014). As regulators and societies recognize the urgency of this issue, industries worldwide are under pressure to adopt more environmentally friendly practices. An increasing number of businesses worldwide are realizing how crucial it is to protect the environment. This has caused a shift in the companies' strategy for environmental protection, emphasizing environmental self-regulation and taking a more proactive approach. Companies are creating new environmental strategies and programs to lessen the environmental effects of their operations and increase the potential environmental benefits. Even if environmental regulations are in existence to address ecological problems, it is still up for debate as to whether or not these are being applied effectively (Rajput and Bhalla, 2023; Sekhokoane et al., 2017). To achieve environmental goals, more is needed than regulatory compliance. These proactive strategies, based on the fundamental management principles of cutting costs and waste, also respond to various stakeholders.

The interaction between human and their surroundings has given birth to environmental management. According to Cramer (1998), Environmental Management (EM) studies all organizational and technological actions to lower the environmental impact generated by the firm's operational activities. The "plan, do, check, act" model serves as the foundation for the environmental management system (EMS), which offers guidelines for organizations looking to continuously improve their environmental performance (EP) concerning their business operations and activities (Singh et al., 2015). It makes it possible to integrate the natural environment and business operations to preserve the environment proactively. When EMS is implemented, firms first concentrate on enhancing or changing internal processes, then go on to changing management structures, after which they adjust their products and supply chain procedures and finally convey their environmental practices externally, for example through ecological reports (Seifert et al., 2020). Companies use EMS and environmental mission statements to address the concerns of stakeholders and guide decision-making on environmental issues. An organization can achieve sustainability by implementing various environmental management practices. Organizations utilize

sustainability practices to ensure that their actions will not damage the environment and society while being economically successful (Bello-Pintado et al., 2023).

The ability to express opinions to a global audience, get better access to timely information and collaborate more effectively are all made possible by wireless and internet technologies. This makes it easier for stakeholders to participate in decision-making and significantly improves their capacity to "shame and condemn" major corporations. Hence, environmentalists, consumers and neighboring communities are calling for environmental protection from pollution. Environmental degradation brought on by economic activity puts pressure on enterprises to produce environmentally friendly operations (Henriques and Sadorsky, 1999). SEMP's at the operational, tactical and strategic levels are communicated to the internal and external stakeholders of the company. SEMP's may not increase the efficiency of a company but rather send an indication to stakeholders that the firm is acting in a socially responsible manner (Amran et al., 2012). Organizations can improve stakeholder relationships and earn more legitimacy to operate by putting environmental sustainability practices into practice (Singh and Mittal, 2019).

The shift towards implementing SEMP's is attributed to pressure from both internal and external stakeholders. Due to the conceptual interest in this research, we choose to employ a categorization of external and internal stakeholders. As per stakeholder theory, stakeholders may have varied degrees of influence over the EM of an entity through many mechanisms such as rewards, fines, counsel, etc. Stakeholders demand that managers work towards environmental protection while also managers are under pressure from different shareholders to increase the company's worth. Internal stakeholders are gradually responding to these demands and realizing their operations may be in danger if their business activities remain unchanged. External stakeholders can influence the environmental practices of an organization through ecological awareness, public opinion, and information about the unsustainable practices of the organization. Comprehensive environmental regulations lead industries to adopt SEMP's (Baylis et al., 1998). Despite the lack of legislation, some industries implement eco-friendly activities. Other stakeholders impose pressure on industries to environmentally friendly activities such as pressure from suppliers, customers, non-governmental organizations, competitors, residents, or shareholders, etc. However, a Lack of pressure from stakeholders leads to low adoption of SEMP's (Tang et al., 2014).

Environmental performance (EP) summarizes operational performance indicators that assess how resources are utilized, how trash is disposed of, how emissions are produced,

or how much water is consumed. Reducing air emissions, energy use, and water use are all aspects of EP (Bananuka et al., 2021). SEMP's improve organizational performance through waste reduction, competitive differentiation and reducing cost through process improvement (Jakhar, 2017). SEMP's help the organization establish the goals of environmental sustainability. Stakeholders can pressure an organization to adopt environmental practices that improve EP.

Organizations can achieve environmental goals by implementing sustainable environmental management practices (SEMP's) at all three levels of management i.e. top, middle and lower levels of management. Through SEMP's, an organization can also improve the commitment and satisfaction of employees and increase their environmental knowledge and capabilities (Alonso-Almeida et al., 2017). This helps the enterprise to improve its financial as well as non-financial performance. Organizations may raise their competitive edge in the market, enhance their reputation and image and improve staff satisfaction and turnover rates by responding to public demands for environmental preservation (Tang et al., 2014). These SEMP's help the organization establish the goals of environmental sustainability. SEMP's improve organizational performance through waste reduction, competitive differentiation and reducing cost through process improvement (Jakhar, 2017).

For an enterprise to maintain its long-term existence, it is essential to understand the expectations and needs of its stakeholders, as unmet requests may have unfavorable impacts on the business (Sharma, 2000). It is believed that managers of an enterprise have the most thorough understanding of the procedures and strategies of the enterprise as most of the important management decisions of the enterprise are made by them (Nejati et al., 2014). Managers can identify and evaluate the key stakeholders (Seifert et al., 2020) and managerial judgments regarding the strength of stakeholder influence over enterprises is important when developing and implementing environmental plans (Céspedes-Lorente et al., 2003). A survey questionnaire directed at managers can be used to measure the managerial perception of stakeholder pressure (Henriques and Sadorsky, 1996). The degree to which actual Stakeholder pressure (SP) levels correspond to perceived SP levels is less important from a manager's perspective (Darnall et al., 2010). Instead, managers who consider the pressure from a particular stakeholder to be significant are more likely to take action to allay that stakeholder's demands (Darnall et al., 2010). Managers who consider sustainability to be an ethical problem are more proactive in implementing sustainability-oriented practices (Bello-Pintado et al., 2023). Even though India has extensive

environmental laws in place, the general managerial opinion is that sanctions are few and are not well-enforced(Sandhu et al., 2012).

This research work makes significant theoretical contributions to the existing literature. In the environmental compliance literature, studies have focused on manufacturing firms for a long time, while service sector firms are recently approaching this topic (Guerci et al., 2016). Most of the studies have focused on a single sector. This study sample not only includes the manufacturing sector but also service sectors such as Universities, malls, hotels, hospitals, and other service sectors. There is a paucity of studies that investigated the role of SEMP as a mediator between SP and EP in the Indian context. There is a dearth of studies that have concentrated on the polluting sector (Balasubramanian et al., 2021). The significance of Sustainability practices is well acknowledged in developed nations. Since the majority of the research has been done in developed countries, the conclusions may offer some helpful insights, but they cannot be applied to developing nations. This study will fill this gap by considering the environmental aspects of red-category industries in a developing country. Moreover, there are surprisingly few studies that investigate the impact of numerous composite variables on SEMP across various industrial sectors using a comprehensive methodology(Darnall et al., 2010). The purpose of this research paper is to study the mediating role of SEMP on the relationship between internal and external SP and EP in the red category industries of India.

The research paper is organized as per the objective of the study. After the theoretical framework, Section 2 presents the literature review of the study. Section 3 represents the methodology used in the study. After presenting the results of the study, we discuss them. Lastly, we provide a conclusion, limitations of the study as well as ideas for future research work.

### **Theoretical framework**

The stakeholder theory is more often utilized in the literature than the institutional theory (Haleem et al., 2022). Edward Freeman promoted the term stakeholder in the 1980s, and defined a stakeholder as “any group or individual who can affect or is affected by the achievement of the organization's objective”(Freeman, 1984). Stakeholders are those individuals and groups who have an interest in a particular decision or process of the company. Stakeholders have direct and indirect involvement in the operations of an entity. Internal stakeholders have a direct link with the company, whereas external stakeholders do not have direct contact but are affected in some manner by the company's actions(Bello-

Pintado et al., 2023). Internal stakeholders include employees, top management and shareholders. External Stakeholders include regulators, the local community, trade associations, suppliers, competitors, non-governmental organizations, customers and media (Henriques and Sadorsky, 1996; Wong and Fryxell, 2004). In addition to being internal or external, stakeholders can also be primary and secondary. For instance, the media could be a secondary stakeholder but might not be able to exert all the required pressure on businesses. Customers are the external stakeholders of an organization but can be considered as primary stakeholders as the business operates according to their demands. An organization should sustainably produce goods and services to generate wealth for stakeholders. Stakeholders' wealth leads to the achievement of sustainable development (Kaawaase et al., 2021).

The stakeholder theory is a descriptive, normative and instrumental, claim (Donaldson and Preston, 1995). It is descriptive because it depicts the corporation as a set of complementary and competing interests that have intrinsic value. It is normative because it presupposes that stakeholders are people or organizations with legitimate interests in corporate activity's operational substantive aspects. Last but not least, it is instrumental because it creates a framework for analyzing the links between stakeholder management and the fulfillment of business performance goals. Thus, as per the instrumental model, it becomes essential to look at whether managerial perceptions of stakeholders' pressure influence the implementation of SEMP(Sánchez-Medina et al., 2016).

Stakeholder theory assumes that internal and external stakeholders can pressure an organization to adopt different SEMP. Level of environmental awareness, culture and environmental factors may affect the perception of internal and external stakeholders towards the adoption of SEMP (Tang et al., 2014). Different organizations are adopting SEMP as their main business objective to survive in the competitive market, meet regulatory requirements, build a good image, satisfy the demands of customers and employees, etc. It is challenging to identify the stakeholders who have an actual effect on an organization's ability to respond to environmental change, though, because of its inclusivity(Sandhu et al., 2012). Accordingly, we expect that pressure from different stakeholder leads to the adoption of sustainable environmental practices, which, in turn, leads to improved EP.

**Prior research**

Literature has shown that a company adopts SEMP's to show their commitment to environmental protection in response to stakeholder demands (Céspedes-Lorente et al., 2003; Darnall et al., 2010; Jakhar, 2017; Khatter et al., 2021; Wan et al., 2018; Wang et al., 2020). For example, Bananuka et al. (2021) documented that institutional pressure is significantly and positively related to the environmental practices of 303 manufacturing firms in Uganda. Singh and Mittal (2019) and Shubham et al. (2018) noted that secondary stakeholders influence the sustainable operations of Indian industries through primary stakeholders. Álvarez Gil et al. (2001) deduced that Spanish hotels perceiving greater pressure from stakeholders adopt more environmental practices as compared to their counterparts. Bello-Pintado et al. (2023) argue that the impact of different SPs on the adoption of sustainable practices is similar in both developed and developing nations.

External stakeholders have the power to influence and mobilize public opinion in favor of or against the organization (Henriques and Sadorsky, 1999; Meixell and Luoma, 2015). Regulatory pressure is the degree to which regulators threaten or obstruct a company's activities based on that company's EP (Delmas and Toffel, 2004). Regulators also led companies to adopt SEMP's through legal sanctions including fines, notices, or the revocation of licenses to operate (Sánchez-Medina et al., 2016). If businesses do not actively include their stakeholders in sustainability issues, these groups may call on governments to step in and implement regulations to safeguard their ecological environment (Sharma and Henriques, 2005). Firms with less regulatory pressure prefer to pay emission fines or penalties rather than implementing environmental practices (Zhang et al., 2008). Alonso-Almeida et al. (2017) and Jakhar et al. (2020) found that regulatory conditions motivate organizations to adopt SEMP's.

Local communities, media, and NGOs rely upon boycotts, public protests and legal proceedings to influence the company's sustainable policies by threatening to bring the organization's poor EP into the public eye (Shubham et al., 2018). Local communities can exert coercive pressure on corporations by participating in municipal and federal elections, complaining about violations of their environmental rights (Zhang et al., 2008), participating in environmental nongovernmental organizations (NGOs), bringing citizen lawsuits (Delmas and Toffel, 2004), labor unions (Famiyeh et al., 2020) or through media (Nejati et al., 2014). Environmental awareness of the public also exerts pressure on companies to implement SEMP's (Wang et al., 2020). Community pressure has also been acknowledged as a source of pressure, generally exerted on organizations (Sánchez-Medina

et al., 2016). Media can influence an enterprise by conveying favorable or unfavorable information about the company (Henriques and Sadorsky, 1999). Non-governmental organizations are also found to affect the SEMP of an organization (Seifert et al., 2020).

The development of the technology has improved communication and boosted consumer knowledge. Also, as stakeholders, the rise in consumer awareness has prompted businesses to use SEMP (Amran et al., 2013). Although, there are variations in consumer attitudes and willingness to pay for SEMP (Céspedes-Lorente et al., 2003). Consumers will be more likely to buy the products of an organization that uses environmental technology to enhance their production and business operations. Sometimes due to a lack of knowledge about the environmental practices of the company, customers do not favor the implementation of SEMP (Sánchez-Medina et al., 2016; Seifert et al., 2020; Testa et al., 2018). Competitors who use green technologies will consequently win the trust of more consumers which may affect the business strategies of an organization (Wang et al., 2020).

Singh et al. (2015) report an empirical study of 104 industries in New Delhi and neighboring states of India. The finding suggests that regulations and competition motivate Indian industries to adopt SEMP. Nulkar (2014) noted that there is a lack of fair environmental enforcement among engineering SMEs in India. Similarly, Jakhar et al. (2020) find a negative relationship between regulatory pressure and sustainable practices of private Indian manufacturing firms. Famiyeh et al. (2020) reported that labor unions, NGOs and media directly and positively pressurize the organization to adopt SEMP. However, Testa et al. (2018) found that community environmental groups do not influence the implementation of SEMP. Vijayvargy et al. (2017) identified that suppliers are not key drivers for the adoption of SEMP in India.

Internal stakeholders might lead to a positive feedback loop of proactive environmental policies (Ashton et al., 2017; Meixell and Luoma, 2015; N. Singh et al., 2014). The Top management of an organization has the authority to run and manage the business, including the authority to implement SEMP (Tang et al., 2014). Employee commitment to implementing SEMP is seen to be best obtained with top management support. Khatter et al. (2021) reported that shareholders and top management have a major influence on the environmental practices of the hotel industry in Australia. Singh et al. (2014) document that employees have a significant influence on the implementation of SEMP in India.

Top management plays an important role in influencing the adoption of sustainable environmental management practices (SEMP) in an organization (Mzembe et al., 2019; Seifert et al., 2020; Vijayvargy et al., 2017; Wan et al., 2018). When focusing on monitoring



sustainable practices, shareholders in developed nations are more concerned about economic results than in emerging nations (Bello-Pintado et al., 2023). Employees are the key stakeholders of an organization who spread knowledge of good environmental practices (Wang et al., 2020). Environmental awareness of top management and employees plays an important role in the adoption of SEMP in an organization (He et al., 2017). However, environmental training to employees can also mediate the relationship between environmental practices and SP (Sarkis et al., 2010).

Sustainable environmental practices lead to cost reduction such as reduction in costs related to energy usage and waste treatment and disposal which leads to improvement in EP (Tang et al., 2014). With a sample of 167 manufacturing firms in the UK, Yu and Ramanathan (2015) found that SP does not directly influence EP but indirectly through green management practices. Álvarez Gil et al., (2001) deduced that Spanish hotels' adopting more environmental practices have better EP as compared to their counterparts.

There is little empirical evidence that sustainable environmental practices mediate the relationship between SP and EP. Firms that employ diverse sustainable environmental practices in response to SP can enhance good EP and prevent negative environmental impact. Zhu and Sarkis (2007) argue that the presence of environmental pressures from different stakeholders will encourage companies to improve their EP, especially when these pressures result in the deployment of SEMP. Greater environmental pressures from stakeholder groups compel corporations to adopt more sustainable environmental practices, which results in improved EP (Darnall et al., 2010).

By contrast, the adoption of sustainable environmental practices may not always result in increased EP since SEMP may be ineffectual or solely concerned with giving stakeholders the appearance of environmental responsibility (Yu and Ramanathan, 2015). Also, firms may resist the adoption of sustainable environmental practices if they are unaware of stakeholders' pressure, resulting in poor EP (Zhu and Sarkis, 2007).

Therefore, we hypothesize that:

H1: There is a significant positive relationship between external SP and EP.

H2: There is a significant positive relationship between internal SP and EP.

H3: SEMP mediate the relationship between external SP and EP.

H4: SEMP mediate the relationship between internal SP and EP.

## **Methodology**

### ***Data***

This study will consider the red-category industries in India. The industries of India were previously categorized based on industrial size, manpower, and resource consumption. The contamination brought on by the release of pollutants and effluents, as well as the potential harm to human health, were not taken into account as the main criterion. As per the decision adopted at the 57th Conference of the Chairmen and Member Secretaries of the Central Pollution Control Board and State Pollution Control Boards, a "Working Group" was established. The working group recommended the categorization of industries based on the Pollution Index, which is a function of air and water pollutants, created hazardous wastes, and resource consumption. Any industrial sector's Pollution Index (PI) is a number between 0 and 100, and an increasing PI value indicates an increasing pollution load from that sector. Industrial sectors having a PI score of more than 60 or above are categorized as red category industries, the PI score between 41 to 59 is for orange category industries; a PI score of 21-40 for green category industries; White category industries are under the PI score of up to 20.

The list of red-category industries in India has been collected through filing right to information under the RTI Act 2005 and by e-mail to the member secretary of the Punjab Pollution Control Board, India. Manufacturing sectors covered under this study are chemical, textile, pharmaceutical, and electroplating industries and the service sectors included in this study are hotels, hospitals, malls and universities. A structured questionnaire was used in the study for data collection. The respondents were managers in the organization thus it is appropriate to expect the responders to be informed about their organizations to ensure the quality of data collected. The respondents of the university are the assistant registrar of the university. About 581 red category industries were approached for the collection of data but data was collected from only 167 organizations. Thus, the response rate was 28.7%. To gather data, the researcher went to the organizations in person. A brief explanation of the SEMP's concept and the purpose of the survey was provided to the targeted respondents to ensure they understood every question. We were available to assist the research participants and answer any questions they had while they were filling out the survey.

***Measures***

SP consists of two different types of pressure: internal and external SP. The measures of SP were adopted from Z. X. He et al. (2018). Respondents were asked to indicate the environmental influence felt by stakeholders to implement sustainable environmental practices. This was measured on a five-point Likert scale from 1 (no influence) to 5 (very strong influence). Six items measure the SP.

The measure of sustainable environmental management practices was adopted from Ahinful et al. (2019) and Sharma and Henriques (2005). The respondents were asked to indicate the level of sustainable environmental management practices adopted in their organization. This was measured on a five-point Likert scale ranging from 1(no consideration) to 5(actively practicing). Seven items measure the SEMP.

The measure of EP was adopted from(Bananuka et al., 2021; Yang et al., 2013). The respondents were asked to outline the degree of improvement in EP of your organization. Eight items measure the EP.

**Table 1. Summary of item loadings and measurement scale**

Variable	Components	Items	Item loading	
Sustainable Environmental management practices	Water conservation	WAT_CONS1: Water management training and education for staff	0.887	
		WAT_CONS2: Wastewater treatment to reduce the effect of effluents on wetlands.	0.850	
	Energy conservation	ENG_CONS1: Using fuel-efficient vehicles and equipment.	0.769	
		ENG_CONS2: Reduces fuel consumption.	0.842	
		ENG_CONS3: Use of solar energy.	0.866	
	EP	Pollutant prevention	POL_PRE1: Costs associated with regulatory compliance are continuously decreased.	0.745
			POL_PRE2: Decrease in process and production cost.	0.810
			POL_PRE3: Reduced solid wastes.	0.683
		Pollution control	POL_PRE4: Reduced energy consumption.	0.782
			POL_PRE5: Reduction in usage of water.	0.715
			POL_CON1: Enhanced staff learning	0.802
			POL_CON2: Increased filtration and control of pollutants and discharges.	0.772
	POL_CON3: Improved stakeholder relations.	0.765		
External SP	External SP	EX_1: enforcement of environmental laws and regulations by the government.	0.584	
		EX_2: Influence of fines and penalties by the government.	0.739	
		EX_3: environmental petition and complaints made by the local community.	0.822	
Internal SP	Internal SP	EX_4: environmental petition and complaint made by NGOs.	0.740	
		IN_1: Influence of top management through the attention given by them on environmental issues.	0.634	
		IN_2: top management's environmental awareness.	0.661	
		IN_3: employees' environmental awareness.	0.814	
		IN_4: Employees' education level	0.732	

Source: Authors' computation

Confirmatory factor analysis was employed using SPSS AMOS software. The questionnaire was subjected to several tests. As per the recommendations of Hair et al. (2019), we first acquired indicator reliabilities with loadings greater than 0.708. Factor loadings provide the basis for composite reliability (CR), whereas the sample variance-covariance matrix can be used to compute Cronbach's alpha. Hair et al. (2019) indicate that Cronbach's alpha reliability and CR of 0.7 is deemed sufficient for data analysis. Hair et al. (2019) explain that higher values usually lead to higher reliability. The degree to which the

items are related to one latent variable truly determines the same construct is known as convergent validity. It is determined through the average variance explained (AVE). As per Fornell and Larcker (1981), AVE should be more than 0.5. The AVE shows the degree to which the underlying latent variable accounts for the variation in the indicators (Fornell and Larcker, 1981). As per Hair et al. (2019), the indicator reliabilities are averaged to generate the AVE. In table 2, AVE is more than 0.5 indicating that every retained item measures the exact thing which it is supposed to measure. Furthermore, discriminant validity makes sure that one construct is distinct from another construct (Malhotra et al., 2010). MSV and ASV must be less than AVE to evaluate the discriminant validity. In Table 2, both two requirements are fulfilled, which shows how different each construct is from another construct. Table 5 shows that the model fitness of the model fitness is under the required limits.

**Table 2. Summary of validity and reliability test of the variables**

Variable	$\alpha$	CR	AVE	MSV	ASV
SEMPs	0.783	0.947	0.721	0.176	0.068
EP	0.739	0.916	0.578	0.176	0.036
External SP	0.71	0.815	0.527	0.048	0.026
Internal SP	0.702	0.804	0.509	0.022	0.006

Source: Authors' computation

## Results

Structural equation modeling (SEM) is employed using SPSS AMOS to evaluate the hypothesized model. We followed (Sarkis et al., 2010) to study the mediation effect. We proposed two models for examining the relationship between variables. The first model examines the relationship between external, and internal SP and EP. The second model focuses on the mediating role of SEMP.

Table 3 shows the results of model 1. The results depict that the direct relationship between both internal as well as external SP and EP is insignificant. This shows that internal and external SP does not directly influence the EP of organizations.

Figure 1. Direct relationship between SP and EP

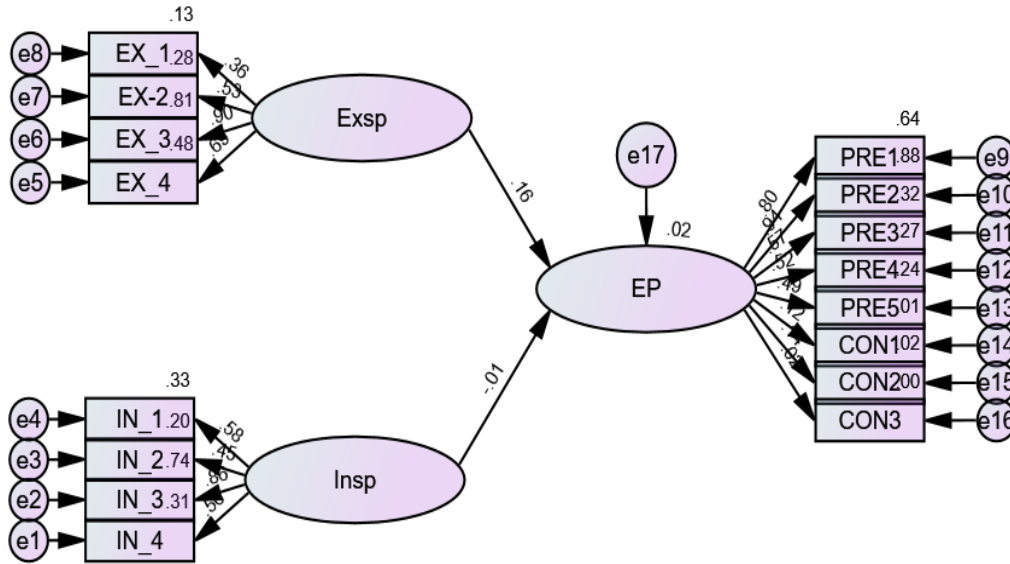


Table 3. Structural model 1 path

Antecedent Variable	Consequent Variable	Unstandardized Estimates	Standard Error	Critical Ratio	P Value	Standardized Estimates
External SP	EP	0.334	0.223	1.495	0.135	0.155
Internal SP	EP	-0.015	0.282	-0.054	0.957	-0.006

Source: Authors' computation

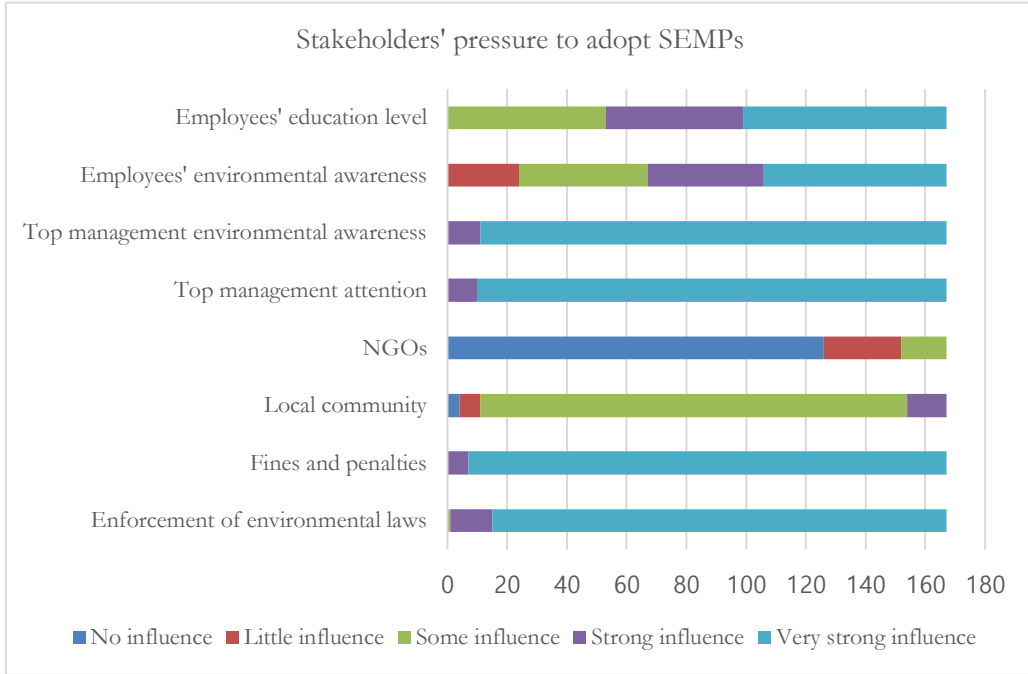
Table 4. Structural model 2 paths

	Antecedent variable	Consequent variable	Standardized estimates	P value
Total effect	External SP	EP	0.156	0.215
Total effect	Internal SP	EP	-0.009	0.889
Indirect effect	External SP	EP	0.087	0.037**
Indirect effect	Internal SP	EP	0.053	0.258
Direct effect	External SP	EP	0.069	0.525
<b>Direct effect</b>	Internal SP	EP	-0.062	0.620

\*\* indicates significance at 5% level

Source: Authors' computation

**Figure 2. Stakeholders' pressure to adopt SEMP (N=167)**

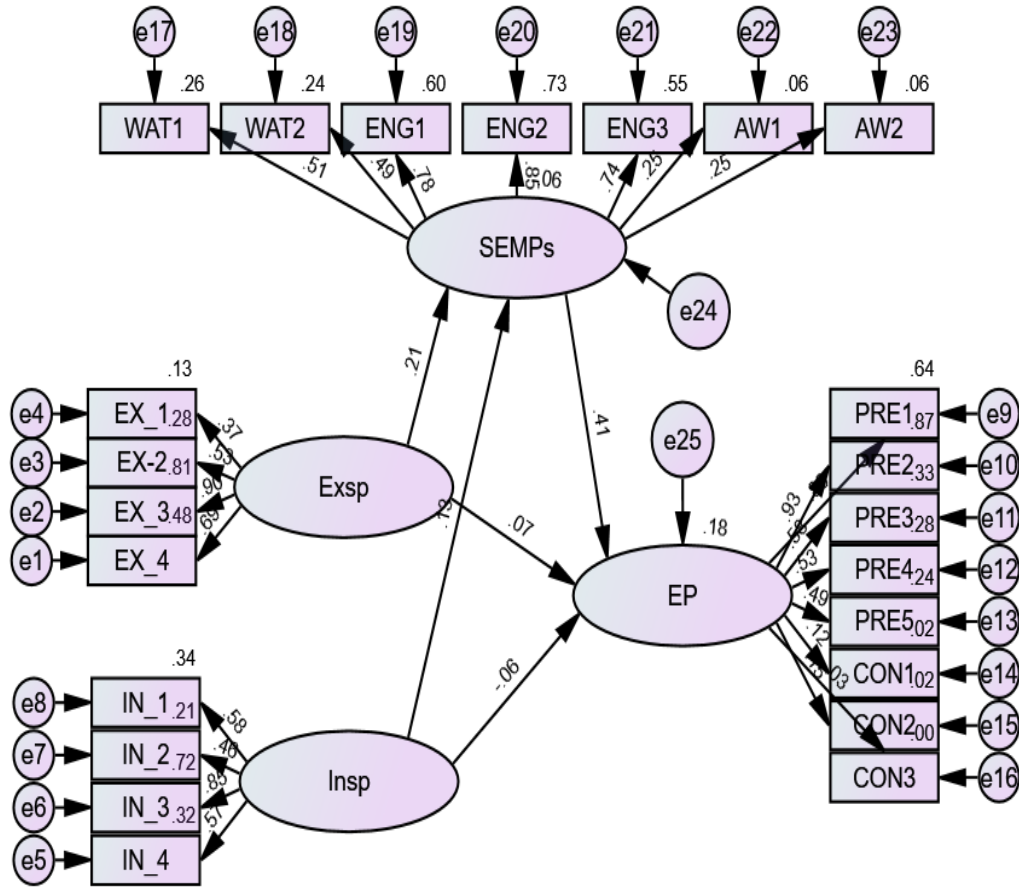


**Table 5. Model fit indices of the proposed models**

Model fit indices	Recommended	Model 1	Model 2
CFI	>0.9(Bentler, 1990)	0.93	0.96
IFI	>0.9(Bentler, 1990)	0.91	0.94
RMSEA	<0.08(Browne and Cudeck, 1992)	0.07	0.05

Source: Authors' computation

Figure 3. Relationship between SP and EP mediated by SEMP



The relationship between external SP and EP (Table 4, figure 3) becomes positive and statistically significant at a 5 % level of significance with the introduction of SEMP as a mediating variable. The direct impact of external, and internal SP on EP is insignificant. Thus, the results provide evidence of complete mediation of the relationship between external SP and EP, by mediator SEMP. It can also be seen in Figures 1 and 3, that, with the introduction of SEMP, the direct impact of external SP (0.16 to 0.7), and internal SP (-0.1 to -0.6) on EP is reduced. However, the association between internal SP and EP is still insignificant with the introduction of SEMP as a mediating variable. As seen in Table 4, the total effect of external, and internal SP on EP is insignificant.



Thus, this research work supports the hypothesis H3. The hypothesis H1, H2, and H4 are not supported. There is no direct relationship between external, or internal SP and EP, but an indirect relationship between external SP and EP is established through SEMP.

### **Discussion**

This research paper makes a significant contribution to the literature by examining the impact of SP on the adoption of SEMP, EP and the mediating role of SEMP on the relationship between SP and EP in polluting industries of a developing country. We have focused on not only the manufacturing sector but also the service sector in this study. Very few researchers have focused on the service sector firms. Here is a surprising finding that internal SP does not mediate the relationship between SP and EP. This means that internal stakeholders do not take the initiative to implement sustainable practices, it is the external stakeholders that pressure the organization to adopt sustainable practices. This shows the lack of motivation of internal stakeholders to implement sustainable practices. Proper environmental training, workshops, seminars and other initiatives by the government can promote environmental awareness among entrepreneurs and employees.

The first and second hypothesis predicts the positive and significant relationship between internal and external SPs and EP. However, the results from the analysis do not support these hypotheses. These results are consistent with the findings of Ngo, (2023), who found that SP is not significantly related to the EP of manufacturing SMEs of Vietnamese. This implies that environmental pressures from external and internal stakeholders are not enough to improve the EP of the organization. One possible reason could be outdated legislation, corruption in these industries, lack of infrastructure in emerging countries like India. During the survey by the researcher, one of the respondents said that as per government requirement we have installed an electronic machine which is more costly than the previous machine and also the electricity consumption of this electronic machine is too much costlier that makes our production costly. Thus, merely regulating these industries is not enough, the government needs to provide infrastructure, subsidies, proper electricity and other facilities to these industries to improve the environmental condition in India. An organization needs to adopt sustainable practices in their normal business operations to improve EP. Pollution control boards in India need to coordinate with these industries to improve the environment. The government should provide incentives to organizations to promote the adoption of SEMP in the country (Wan et al., 2018).

The third hypothesis proposes that SEMP's mediate the relationship between external SP and EP. This hypothesis is supported. This implies that environmental pressure from the government, local community and NGOs induces a firm to adopt environmental practices which ultimately leads to the improvement in EP. These results align with previous studies that examined the mediating role of environmental practices on the relationship between SP and EP (Bananuka et al., 2021; Ngo, 2023). The external SP encourages organizations to adopt SEMP's, which indirectly leads to high EP. The regulatory bodies, local community and NGOs are doing their jobs well in promoting sustainability practices in India. Whenever high SP is promoting environmental behavior, such as high regulations and policies, and expectations of the local community, and customers, then, to comply or to meet these expectations, organizations adopt environmental practices which in turn leads to improved EP.

The fourth hypothesis predicting the role of SEMP's as a mediator between the relationship between internal SP and EP is not supported. This result contradicts the findings of Ashton et al. (2017) who predicted that internal stakeholders pressurize a firm to implement sustainable practices for gaining competitive advantage and improving performance. Our interesting finding shows that top management and employees of the organization do not focus on implementing sustainability practices which do not lead to improvement in the environmental performance. One possible reason for this could be the non-willingness and lack of environmental awareness of top management and employees of red category industries of India. Most organizations often believe that using non-environmental materials reduces the cost of business operations. The government and top management are required to take initiatives to increase environmental awareness and provide environmental training to industrialists and employees.

Managers may have varying perspectives on the benefits of SEMP adoption. They believed that adopting sustainable practices could increase financial costs for their businesses. The majority of respondents continue to use a lot of plastic products. Furthermore, many enterprises still struggle to use less fuel oil when distributing goods along the supply chain. Due to a lack of knowledge about human resources and costs, they were unable to reduce the use of plastic products and fossil fuels for product distribution. By optimum utilization of resources, reduce, reuse and recycling, organizations can improve their environmental performance.

## CONCLUSION

Using the stakeholder theory, this research paper examines the relationship between external, and internal SP, SEMP, and EP in red category industries of India. Using a sample of 167 red-category industries and SEM, this study predicted the mediating role of SEMP on the external, and internal SP and EP relationship. This finding suggests that the relationship between external SP and EP is mediated by SEMP. However, the findings of this study do not support the direct relationship between external, and internal SP and EP. However, the indirect relationship between internal SP and EP through SEMP is also not supported.

Using stakeholder theory, this study attempts to explain SEMP-related issues among polluting industries. The utilization of the Stakeholder theory facilitated a more thorough examination of an organizational setting and how stakeholders in the polluting industry impact, enable, or obstruct the adoption of SEMP. Stakeholders are holding businesses more and more responsible for environmental decisions as climate change worsens. To lower environmental risks and preserve a competitive advantage, the firm should interact with stakeholders and build their relationships with them. Stakeholders use their power to encourage businesses to act in an environmentally responsible manner. Some examples of this include tighter enforcement of environmental laws, promoting consumer boycotts, and organizing environmental protests. Thus, one cannot attain the best outcomes and value without the support of stakeholders.

The results showed that although industrialists had stated their intention to use SEMP, several barriers had prevented this goal from being fully achieved. It may be the high cost of environment-friendly products or the lack of resources to implement sustainable practices. Management can begin putting sustainable environmental management strategies into action with the confidence that these strategies will improve the company's operations, reputation, and economic and environmental performance. To fully integrate SEMP into their business strategy, owner-managers should increase their investment budget. Management is required to provide the necessary knowledge and guidance to staff for sustainable innovation. Additionally, rather than focusing on formal environmental mechanisms, industrial associations could also run environmental-oriented programs to increase environmental awareness among industries.

To encourage the internalization of green practices, the government should increase owner-manager awareness of the environmental effects of their operations as well as the potential for increased revenue from the application of SEMP. Government

regulations can be used as a kind of coercion to force all entities to comply with environmental regulations. The government can also provide all organizations with physical and non-physical support to implement sustainable practices. Environmental rewards and incentives by the regulatory authorities may encourage organizations to make continuous environmental improvements.

The results of this research paper are subject to some limitations. First, the findings of this study may not be generalizable to other states of India or other countries in the world. Second, this study used cross-sectional data, the data allow only a one-time assessment of responses. Future researchers can employ longitudinal data to analyze the changes in responses over some time. Also, the response rate in the study is low and the biases of respondents limit this research work. Future researchers may make comparisons of environmental practices in different countries. They can rely on annual reports and other secondary data for analysing the relationship between SEMP's and EP.

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