International Journal of Business and Management Sciences **E ISSN**: 2708 – 4337 **P ISSN:** 2708 – 4329
Available online at http://www.ijbmsarchive.com
International Journal of Business and Management Sciences
Volume 06 (03), 2025
Received, 20 May, 2025, *Accepted, 06 July, 2025,*
Online, 07 July, 2025

Unlocking Innovation through ESG: The Mediating Role of Ethical Climate and Stakeholder Trust in Pakistan's Textile Sector

[1] *Dr. Samina Rooh,*[2] *Dr. Arif Ul Haq,*[3] *Dr. Javeria Andleeb Qureshi*

Keywords: *Environmental, Social and Governance (ESG), Organizational Ethical Climate, Stakeholders' Trust, Innovation Capability, Stakeholders' Theory.*

ABSTRACT

In response to growing global pressures for sustainable business practices, this study investigates how Environmental, Social, and Governance (ESG) performance contributes to firm innovation capability, focusing on the textile industry in Pakistan. Drawing on Stakeholder Theory, the study proposes a parallel mediation model in which organizational ethical climate and stakeholder trust serve as mediating mechanisms. Data were collected from 410 textile firms through structured questionnaires targeting key decision-makers, including sustainability officers, production heads, and supply chain managers. Using Hayes' PROCESS macro (Model 4) with 5,000 bootstrap samples, the results reveal a full mediation effect: ESG performance does not directly influence innovation capability; instead, it operates entirely through improvements in ethical climate and stakeholder trust. Notably, the mediating role of ethical climate was stronger than that of stakeholder trust, highlighting the internal organizational culture as a more critical pathway for translating ESG efforts into innovation outcomes. These findings offer important theoretical contributions by deepening our understanding of the mechanisms through which ESG performance enhances firm innovation, particularly in sustainability-sensitive industries. The study also provides empirical insights from an emerging market context, emphasizing the strategic value of ESG as a driver of competitive advantage through innovation. Limitations include the cross-sectional nature of the data and reliance on self-reported measures. Future research is encouraged to explore longitudinal and comparative analyses across industries and regions. Overall, the study underscores the importance of fostering ethical practices and stakeholder trust to unlock the full innovative potential of ESG initiatives in the textile sector.

INTRODUCTION

The textile industry is one of the most significant contributors to Pakistan's economy, accounting for approximately 60% of total exports, employing over 40% of the industrial labor

[1] *Lecturer, Department of Management Sciences, University of Buner, Pakistan. Email:* saminarooh@ubuner.edu.pk / samina.ali.bangash@gmail.com
[2] *Lecturer, Department of Management Sciences, Islamia College University, Peshawar, Pakistan. Email:* arifulhaq@icp.edu.pk
[3] *Assistant Professor, Department of Management Sciences, Hazara University, Mansehra, Pakistan. Email:* javeria@hu.edu.pk *(Corresponding Author)*

force, and contributing nearly 8.5% to the national GDP (Pakistan Bureau of Statistics, 2023; "Pakistan Today.," 2025). As a leading player in the global textile market, Pakistan exports a wide range of products including cotton yarn, garments, home textiles, and knitwear (Bradstreet, 2024). However, despite its economic importance, the sector faces increasing challenges such as volatile global demand, rising production costs, environmental compliance pressures, and competition from more technologically advanced countries like China, India, and Bangladesh (Abbas & Halog, 2021; Abbas & Bhutto, 2024; Chakraborty & Kwon, 2024). In this context, innovation capability has become a strategic necessity rather than a competitive luxury (Abbas, 2024; Abbasi et al., 2025). The ability to develop and implement new ideas, products, processes, and business models allows textile firms to adapt to rapidly changing market requirements, enhance operational efficiency, comply with international environmental standards, and move up the value chain. Besides, with the transition towards smart and sustainable textiles, businesses that do not adopt innovation risk losing their position in export markets as well as value chains. Hence, innovation capacity building is crucial not only for international competitiveness but also for long-term resilience and value generation of Pakistan's textile industry (Agrawal et al., 2024; Al Nuaimi et al., 2024).

The current body of knowledge focuses on the importance of innovation capability as a key driver of firm competitiveness (Almazrouei et al., 2024), which is typically influenced by internal variables like human resource practices (Agrawal et al., 2024), psychological empowerment (Al-Romeedy & El-Sisi, 2024), and innovative work behavior (Abbasi et al., 2025). Existing studies continue to highlight the influence of sustainability-oriented strategies and a firm's green reputation in boosting innovation capability (Afridi, Asad, et al., 2023; Al Daboub et al., 2024; Tang et al., 2024; Zuhroh & Rini, 2024). Although these studies focus mainly on internal and strategic variables, new studies highlight that ESG practices can also be a firm external and moral framework that enables the promotion of innovation capability(Khamisu et al., 2024; Martiny et al., 2024; Seow, 2024). Considering this, the study of ESG as a predictor of innovative capacity is a new and great insight into how sustainability-driven values can impact the innovative capacity of businesses. The environmental aspect mainly focuses on the manner in which a company responds to its influence on environmental issues like carbon emissions, resource depletion, and waste management. While the social aspect looks at the manner in which a business responds to its employees, customers, suppliers, and the communities it operates in, with special focus on labor practices, diversity, and community engagement. Governance focuses on the leadership and governance practices of a company, including issues like executive remuneration, board diversity, and shareholder rights.

Since it encourages businesses to tackle difficult sustainability issues with innovative problem-solving and flexible tactics, ESG performance is becoming more and more recognized as crucial for boosting a company's capacity for innovation (Chopra et al., 2024; Mohammad & Wasiuzzaman, 2021; Yu et al., 2024). ESG performance increases stakeholder trust, draws in creative talent, and makes green financing and partnerships (Seow, 2024; Yu et al., 2024)—important resources that support R&D—available by cultivating a culture of accountability and openness. Additionally, it puts businesses in a position to remain competitive in ever-changing markets by matching them with consumers' evolving preferences for ethical and sustainable products (Chopra et al., 2024; Ibrahim et al., 2025; Khamisu et al., 2024). Additionally, ESG practices make a company more flexible and innovative in its response to environmental and social risks by enhancing its dynamic capabilities to recognize, grasp, and capitalize on opportunities (Ibrahim, 2022; Khamisu et al., 2024; Seow, 2024). ESG performance is becoming more and more recognized as crucial for improving a company's capacity for innovation since it encourages businesses to tackle difficult sustainability issues by using innovative approaches to problem-solving and ESG performance (Afridi et al., 2020; Afridi, Ali, et al., 2023; Yu et al., 2024; N. Zhang et al., 2024) is therefore a strategic lever for long-term innovation and resilience in addition to being a moral requirement.

According to stakeholder theory (Freeman et al., 2010), businesses must act in a way that serves the interests of all parties involved, not just shareholders. These parties include suppliers, customers, employees, communities, and regulators. ESG performance is a clear indicator of a company's dedication to ethical business practices, especially in the textile sector where labor practices, environmental degradation, and ethical sourcing are major concerns (Del Gesso & Lodhi, 2025; Mohammad & Wasiuzzaman, 2021; Sajid et al., 2025). This commitment's establishment creates a strong organizational ethical climate under which employees internalize ethical values, feel empowered to challenge unsustainable behavior, and are motivated to devise new solutions in line with ESG goals. Such a culture attracts open communication, psychological safety, and intrinsic motivation (Cao & Le, 2024; Ginting et al., 2023) all of which are the drivers of innovation. Moreover, high ESG performance increases transparency, cooperation, and long-term orientation (Afridi et al., 2021; Ali Ahmad et al., 2023; Arpaci et al., 2024) and, at the same time, constructs stakeholder trust and reduces skepticism and conflict (Abitbol & VanDyke, 2023; Aguinis et al., 2024). Stakeholder trust constructs a web of innovative partnerships that otherwise would not exist, for example, suppliers investing in cooperative sustainable solutions or shoppers co-creating eco-products. Therefore, by creating the moral, psychological, and interpersonal architecture necessary for the textile industry to innovate responsibly and competitively, it is theorized that organizational ethical climate and stakeholder trust could be mediators in the ESG-firm innovation capability relationship.

This research would give useful insights regarding how ESG practices can result in innovation among companies. Through the development of a robust theoretical framework, the research would uncover the way stakeholder trust and ethical organizational climate increase the connection between ESG and innovation. These results give business practices and practical implications to managers that promote investment in ESG programs, which not only provide a value-based work environment but also uphold stakeholder relationships—both of which are key to innovation.

In addition, the study would have significant implications for policymakers by illustrating the vast economic benefits and innovation payback of leadership in ESG standards. In particular, the study would illuminate the promise of ESG innovation in the textile industry, which is increasingly in the crosshairs of concern for its environmental and social impacts. With the adoption of ethical conduct and stakeholder trust, textile firms can enhance their ESG performance and develop innovative and sustainable solutions—i.e., biodegradable products and upgraded production procedures—to address the increased consumer and marketplace demand for sustainability.

Hypotheses Development

Environmental Social Governance Performance to Firm Innovation Capability

Recent studies have shed light on some of the major themes of the relationship between a firm's innovation capacity and its ESG performance. Increasing research demonstrates that companies with good ESG conduct generally possess greater innovation capacity (Truant et al., 2024; Yang et al., 2024). This improvement mainly results from the development of a sustainable organizational culture with a culture of risk-taking and creativity—characteristics that are crucial for innovation (Chopra et al., 2024; Li et al., 2024; Sun et al., 2024). For example, companies dedicated to sustainability are likely to allocate resources effectively to research and development, resulting in the development of innovative products and processes addressing not only customer demands but also sustainability-related issues (Sun et al., 2024; Wang & Zhang, 2024; Yang et al., 2024).

In addition, this relationship is strongly influenced by the pressures stakeholders exert. Corporations are forced to implement innovative practices in order to satisfy the increasing expectations of investors, consumers, and regulatory agencies with regard to accountability in the context of ESG practices (Khamisu et al., 2024; Truant et al., 2024; Xu & Zhu, 2024). The alignment of stakeholder interests and corporate innovation makes possible the creation of long-term value. Finally, recent research has testified to how companies were able to implement ESG considerations in their core strategies and to create remarkable innovations (see e.g, Chen et al., 2024; Li et al., 2024; Sun et al., 2024; H. Zhang et al., 2024). These results highlight the relevance of taking into account sectoral and regional heterogeneities in the relationship between ESG and innovation because effects can vary by industry. Stakeholder theory provides a supportive framework in this regard, emphasizing the need to react to the needs and expectations of a heterogeneous set of stakeholders in a way that shapes corporate conduct and innovation (Freeman et al., 2010; Khamisu et al., 2024; Matarazzo et al., 2024). Companies that are able to effectively understand and interact with their stakeholders will be ready to engage in innovation and create value and, ultimately, strengthen their competitive edge. This theoretical framework supports the confirmation that enhanced ESG performance can induce more efficient innovative capabilities as the result of adequate stakeholder interaction.

Thus, based on the above discussion we proposed the following hypothesis:

H1: *Higher levels of ESG performance positively influence a firm's innovation capability*.

The Mediating Roles of Organizational Ethical Climate

Employees feel more secure and supported in putting forth new ideas when they are operating in an ethical context (Dey et al., 2022; Men et al., 2020). Also, when there is an ethical climate, organizations are more collaborative and share information (Bankins & Formosa, 2023; Dziubaniuk & Aarikka-Stenroos, 2025; Iqbal & Parray, 2025) -- two very important parts of the innovation process (Agrawal et al., 2024; Al Nuaimi et al., 2024). Furthermore, the ethical climate can influence how stakeholders view the commitment of a firm to sustainability and innovation. When stakeholders, including customers, investors, and employees, see that a firm has taken an ethical approach, they will be more likely to support its innovation efforts, further improving the firm's overall innovation capability (Freeman et al., 2010; Khamisu et al., 2024; Matarazzo et al., 2024). The support for innovation will come in many forms, including increased customer loyalty, increased investor confidence, and the best of the best talent will want to work for that firm. Thus, we argue that the organizational ethical climate could be a vital mediating variable that could bridge the relationship between ESG performance and firm innovation capability. Therefore, organizations that foster an ethical climate will have a stronger basis for tapping into their ESG initiatives to create relevant innovative outcomes. Stakeholder theory is the idea that organizations need to be concerned about the interests and well-being of all stakeholders not just shareholders in their decision making (Freeman et al., 2010). The proposition is consistent with the view that an ethical climate can improve organizations' relationships with stakeholders, which enhances innovation capability and sustainability performance.

Thus, we propose that:

H2: *Organizational ethical climate acts as a mediating mechanism in the relationship between ESG performance and firm innovation capability*

The Mediating Roles of Stakeholder Trust

Previous findings suggest stakeholders can and do use their trust in each other to promote cooperative or collaborative behaviors that align interests, and as a result leads to better organizational performance (Khamisu et al., 2024; Matarazzo et al., 2024; Shaikh & Randhawa, 2022). There is also a significant stream of gathering evidence that trust will act as a mediator between stakeholder engagement and organizational performance. For example, stakeholder trust can mediate how stakeholders view the levels of commitment toward action produced versus how the organization is perceived and also shapes stakeholder commitment and support (Cao & Le, 2024; Juwaini et al., 2022; Östergård et al., 2025). When there are levels of trust, stakeholders are likely having a stronger engagement with products and business relationships as well as resources, knowledge share for improvement or innovation and positive engagements with the organization and its processes. A level of trust in stakeholder relationships can temper conflict and lead to collaboration (Lee et al., 2024; Östergård et al., 2025). There is evidence to suggest that organizations that prioritize trust with their stakeholders significantly reduce risk and reputation, both of which are required to compete in the market today (Bergquist et al., 2024; Duong et al., 2024; Han et al., 2021). This trust may not only lead to immediate transactional benefits, but it can also stimulate the longevity and sustainability of stakeholder relationships. While trust will have immediate benefits in terms of transactions, the trust can help with the long-term sustainment of that stakeholder relationship, which shows the impact trust can play in any process for an organization (Bergquist et al., 2024; Cao & Le, 2024; Duong et al., 2024). The stakeholder theory provides a framework to comprehend the interrelationships between a host of different organizations and the stakeholders they engage with, and all aspects of trust remain core parts of those relationships (Bergquist et al., 2024; Freeman et al., 2010). Trust between stakeholders is a very basic requirement for leveraging collaboration, and stakeholder trust is also essential for communication and long-term relationships.

Finally, stakeholder trust is an important mediating factor involving the dynamic relationship between organizations and their stakeholders. Stakeholders building trust can effectively improve stakeholder engagement, resolve conflicts, and ultimately improve stakeholder performance and sustainment (Freeman et al., 2010; Han et al., 2021; Khamisu et al., 2024). Thus, we can propose the following hypothesis:

H3: *The relationship between organizational performance and stakeholder engagement is mediated by stakeholder trust.*

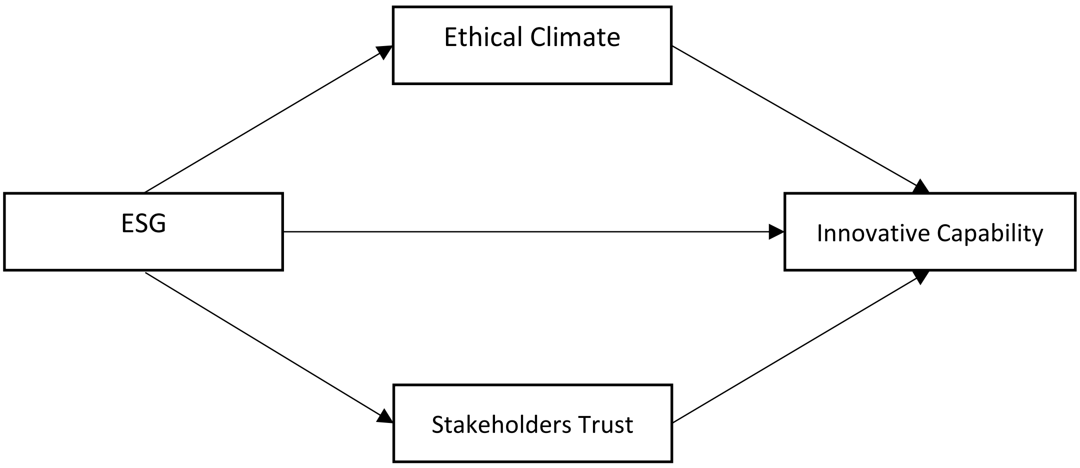

Figure No. 1: ***Conceptual Framework***

METHODOLOGY

Participants and Procedures

To investigate the impact of ESG performance on firm innovative capability with the mediating roles of stakeholder trust and organizational ethical climate, a quantitative, firm-level research design was adopted. The target population comprised 18,861 registered textile firms operating across Pakistan (Bradstreet, 2024). Following (Krejcie & Morgan, 1970)sample size determination method, and accounting for potential non-responses, a final sample of 410 firms was selected to ensure statistical adequacy and reliability(Chaokromthong & Sintao, 2021). Stratified random sampling was employed to ensure proportional representation from key textile hubs including Karachi, Lahore, Faisalabad, and Sialkot regions that dominate the country's textile sector (Abbas, 2024; Abbas & Bhutto, 2024). The researcher obtained data on registered firms from official sources such as the Chamber of Commerce, the Trade Development Authority of Pakistan, and the Ministry of Commerce to ensure the sampling frame was accurate and representative. Selected firms were approached via formal invitations outlining the study's objectives and significance. Primary data were collected using structured questionnaires administered to key stakeholders within each firm, including supply chain managers, production heads, and sustainability officers. The questionnaire focused on capturing respondents' perceptions of ESG performance, stakeholder trust, ethical climate, and firm innovation capability. All data collection procedures strictly adhered to ethical research protocols, ensuring informed consent, confidentiality, and voluntary participation.

The demographic Properties

The demographic statistics are provided in table no. 2. In the context of firm size, majority of the respondents represent medium sized firms with 42%, large 31.7% and small firms (26.3%). Similarly, the firm age shows that majority of the participating firms are operational for more than 10 years suggesting maturity in operations and potentially well-developed management structures. The geographic representations of the firms show that 28.8% were from Karachi, 23.4% Lahore, 25.4% Faisalabad and 14.1% Sialkot. This geographic distribution enhances the generalizability of the findings across the national sector.

In terms of the designations of the respondents, a diverse mix of functional roles were captured, including supply chain managers (23.4%), production heads (27.6%), and sustainability officers (20.7%). Furthermore, a significant portion of the participating firms were export-oriented with 67.3% and the data on ESG reporting practices reveal that while only 26.6% of firms follow formal ESG reporting standards, a larger proportion (44.1%) engage in informal or internal ESG practices.

Table 1: Demographic Profile of Participating Textile Firms (N = 410)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Firm Size	Small (Less than 100 employees)	108	26.3%
	Medium (100–250 employees)	172	42.0%
	Large (More than 250 employees)	130	31.7%
Firm Age	Less than 5 years	54	13.2%
	5–10 years	121	29.5%
	11–20 years	143	34.9%
	More than 20 years	92	22.4%
Location (Head Office)	Karachi	118	28.8%
	Lahore	96	23.4%
	Faisalabad	104	25.4%
	Sialkot	58	14.1%
	Others	34	8.3%
Respondent Designation	Supply Chain Manager	96	23.4%
	Production Head	113	27.6%
	Sustainability/CSR Officer	85	20.7%
	Quality/Compliance Manager	66	16.1%
	Others (e.g., Owner/Director)	50	12.2%
Export Orientation	Export-Oriented Firms	276	67.3%

Demographic Variable	Category	Frequency (n)	Percentage (%)
ESG Reporting Status	Domestic Market Only	134	32.7%
	Formal ESG Reporting	109	26.6%
	Informal/Internal ESG Practices	181	44.1%
	No ESG Reporting	120	29.3%

Measures

To empirically examine the relationships among the study variables, validated measurement scales were adopted from prior research. ESG performance was measured using a 12-item scale adapted from (Khan et al., 2024), capturing ESG dimensions. A sample item includes, "Our firm actively monitors and reduces its environmental footprint." The scale demonstrated good internal consistency, with a Cronbach's alpha of 0.88. Stakeholder trust was assessed using a 5-item scale developed by (Pirson & Malhotra, 2011), which evaluates the level of confidence stakeholders have in the organization's actions. A representative item is, "Stakeholders believe our firm acts in their best interest," with a Cronbach's alpha of 0.86.

Organizational ethical climate was measured through a 7-item scale derived from Victor and (Victor & Cullen, 1988) Ethical Climate Questionnaire, focusing on the perceived ethical norms within the organization. A sample item reads, "Ethical behavior is the standard in all decision-making processes within our firm." This construct showed strong reliability with a Cronbach's alpha of 0.89. To assess firm innovative capability, a 6-item scale adapted from Calantone et al. (2002) was used, which captures a firm's ability to introduce new products, services, or processes. An example item is, "Our firm frequently adopts new and innovative ideas," and the scale reported a Cronbach's alpha of 0.91.

All items were rated using a 5-point Likert scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree*. The reliability scores confirm that each scale demonstrates acceptable internal consistency for inclusion in further statistical analyses.

Correlation

The correlation matrix presents the Pearson correlation coefficients among the four key variables of the study: ESG performance, Ethical Climate, Stakeholder Trust, and Innovation Capability, based on data from 410 textile firms. All reported correlations are statistically significant at the 0.01 level (2-tailed), indicating strong evidence of association among the constructs (see table 2 for details)

Table No. 2: Correlation Matrix

	ESG	ECMT	ST	IC
ESG	1	.722**	.334**	.693**
ECMT	.722**	1	.392**	.954**
ST	.334**	.392**	1	.377**
IC	.693**	.954**	.377**	1

**. significant p< 0.01 level (2-tailed).

RESULTS

To test the hypothesized parallel mediation model, we employed Hayes' PROCESS macro (Model 4) using SPSS version 26. A bootstrapping procedure with 5,000 samples and a 95% confidence interval was used to estimate the indirect effects. The model included Ethical climate and stakeholders' trust as parallel mediators between ESG and firms' innovation capability. The total effect of ESG performance on innovative capability was significant (B = 0.41, β = 0.33, $p < .001$). However, the direct effect became nonsignificant (B = 0.09, β = 0.08, p = .215), suggesting full mediation. Both Ethical climate (B = 0.12, β = 0.10) and Stakeholders' trust (B = 0.19, β = 0.16) significantly mediated the relationship, with ST emerging as the stronger mediator.

Table 3: Parallel Mediation Analysis Using PROCESS Model 4

Effect Type	Path	B (Unstd.)	β (Std.)	SE	95% CI	Significance
Total Effect	ESG → IC	0.4061	0.3343	0.0567	[0.2947, 0.5176]	Yes
Direct Effect	ESG → IC	0.0947	0.0779	0.0762	[–0.0552, 0.2445]	No
Indirect Effect (Total)	ESG → EC/ST → IC	0.3115	0.2564	0.0708	[0.1857, 0.4659]	Yes
Indirect via EC	ESG → EC → IC	0.1229	0.1012	0.0695	[0.0024, 0.2746]	Yes
Indirect via ST	ESG → ST → IC	0.1885	0.1552	0.0369	[0.1208, 0.2654]	Yes

DISCUSSION

The results of this study provide robust evidence of a full mediation effect, where the influence of ESG performance on firm innovation capability operates entirely through two key organizational mechanisms: ethical climate and stakeholder trust. The non-significant direct effect of ESG on innovation, once the mediators were accounted for, suggests that ESG initiatives alone do not directly drive innovation; rather, their impact is fully channeled through the creation of an ethically grounded internal culture and trusted external stakeholder relationships.

The stronger indirect effect observed through ethical climate underscores the vital role of internal values and ethical norms in stimulating innovation. This finding is consistent with the research of (Dey et al., 2022; Men et al., 2020), which emphasizes that ethical work environments foster employee integrity, openness to change, and a shared sense of responsibility—all of which support idea generation and innovative problem-solving. In the context of the textile industry, where reputational risk and environmental pressure are high, fostering an ethical climate can help firms integrate sustainability into their core innovation strategies.

Simultaneously, the significant mediation through stakeholder trust reinforces the idea that the perception of ESG credibility among stakeholders—such as customers, investors, suppliers, and regulatory bodies—creates the social license and cooperative space needed for innovation. This supports earlier work by Freeman et al. (2010) and Khamisu et al. (2024), who suggested that stakeholder trust enables long-term partnerships, reduces uncertainty, and provides access to external knowledge, all of which are crucial for firms operating in dynamic sectors like textiles. In emerging economies such as Pakistan, where institutional support is evolving, stakeholder trust built through ESG transparency becomes a critical intangible asset.

Contrary to some prior studies that reported a direct positive relationship between ESG and innovation (e.g, Chen et al., 2024; Yang et al., 2024; H. Zhang et al., 2024), our findings suggest that ESG's value for innovation is not automatic, but contingent on how it shapes internal ethical structures and external relational capital. This reinforces a more nuanced understanding of ESG—not merely as a compliance tool but as a foundational enabler of innovation capability through organizational culture and stakeholder engagement.

Overall, this study contributes to the growing literature by empirically validating a dual-path full mediation model, emphasizing that firms must go beyond ESG reporting and actively cultivate trust and ethical norms to unlock innovation potential. For textile firms in Pakistan and similar contexts, investing in ESG must be coupled with strategic internal and external alignment to truly enhance innovation outcomes in a sustainability-driven market.

Conclusion

This study concludes that ESG performance positively influences firm innovation capability in the textile sector of Pakistan, but this relationship is fully mediated by organizational ethical climate and stakeholder trust. The findings suggest that ESG practices alone do not directly lead to innovation; rather, their impact is realized when they foster a values-driven internal culture and build credibility and trust among key stakeholders. These results underscore the importance of aligning ESG efforts with organizational ethics and stakeholder engagement to drive sustainable innovation. For textile firms aiming to remain competitive in a sustainability-focused global market, the strategic integration of ESG into cultural and relational processes is essential for unlocking their innovative potential.

Contribution

This research offers significant theoretical and empirical advancements to the literature on ESG and innovation. Theoretically, it contributes by hypothesizing and confirming a dual-path full mediation model that shows the impact of ESG performance on firm innovation capability is indirect but fully mediated by organizational ethical climate and stakeholder trust. This enhances frameworks like Stakeholder Theory by naming ethical culture and trust as key intangible resources that convert ESG initiatives into innovation performance. Empirically, the research provides new evidence from Pakistan's textile sector, an industry facing increasing global sustainability pressure, offering context-relevant insights into how ESG implementation generates innovation in emerging economies. By combining both internal (ethical climate) and external (stakeholder trust) mechanisms, the research provides a more multidimensional and complete picture of how ESG performance helps build innovation capability in reputation-sensitive, resource-constrained industries.

Limitation and Future Research Directions

Despite its valuable insights, this study has several limitations that offer avenues for future research. First, the data were collected through a cross-sectional survey design, which limits the ability to draw causal inferences. Future studies could adopt a longitudinal approach to better understand the dynamic relationship between ESG performance and innovation over time. Second, the study relied on self-reported data from managers, which may be subject to social desirability bias; future research could incorporate objective performance metrics or triangulate with stakeholder perspectives. Third, while this study focused on the textile industry in Pakistan, the findings may not be fully generalizable to other sectors or geographic contexts. Comparative studies across industries or countries—especially in developed markets—could provide deeper insights into contextual influences. Lastly, this study examined ethical climate and stakeholder trust as mediators; future research could explore additional mediating or moderating variables, such as organizational learning, leadership style, or institutional pressure, to further unpack the ESG–innovation linkage.

REFERENCES

Abbas, & Halog. (2021). Analysis of Pakistani textile industry: recommendations towards circular and sustainable production. In *Circular economy: assessment and case studies* (pp. 77-111). Springer.

Abbas, J. (2024). Does the nexus of corporate social responsibility and green dynamic capabilities drive firms toward green technological innovation? The moderating role of green transformational leadership. *Technological forecasting and social change*, *208*, 123698.

Abbas, S., & Bhutto, S. (2024). Macroeconomic determinants and potential markets for Pakistani textile-clothing and apparel industries: Evidence from gravity model analysis. *The Journal of The Textile Institute*, *115*(1), 76-86.

Abbasi, E., Khan, A. A., Siddiqui, M. S., & Siddiqui, S. (2025). Towards Investigating Innovation Perceptions of Leaders in the ICT Sector of Pakistan. *Human Behavior and Emerging Technologies*, *2025*(1), 9948672.

Abitbol, A., & VanDyke, M. S. (2023). Analyzing the nature of self-transcendent emotional elicitors in corporate social advocacy messages. *Public Relations Review*, *49*(4), 102364.

Afridi, Shahjehan, A., Haider, M., Gul, S., & Khan, W. (2021). Generativity and green purchase behavior: The role of environmental concern and pro-social attitude. *Humanit. Soc. Sci. Rev*, *9*, 344-357.

Afridi, S. A., Afsar, B., Shahjehan, A., Khan, W., Rehman, Z. U., & Khan, M. A. (2020). Impact of corporate social responsibility attributions on employee's extra-role behaviors: Moderating role of ethical corporate identity and interpersonal trust. *Corporate Social Responsibility and Environmental Management*.

Afridi, S. A., Ali, S. Z., & Zahid, R. (2023). Nurturing environmental champions: Exploring the influence of environmental-specific servant leadership on environmental performance in the hospitality industry. *Environmental Science and Pollution Research*, 1-12.

Afridi, S. A., Asad, Zaheer, S., Khan, W., & Gohar, A. (2023). Bridging Generative Leadership and Green Creativity: Unpacking the Role of Psychological Green Climate and Green Commitment in the Hospitality Industry. *SAGE Open*, *13*(3), 21582440231185759. https://doi.org/10.1177/21582440231185759

Agrawal, R., Agrawal, S., Samadhiya, A., Kumar, A., Luthra, S., & Jain, V. (2024). Adoption of green finance and green innovation for achieving circularity: An exploratory review and future directions. *Geoscience frontiers*, *15*(4), 101669.

Aguinis, H., Rupp, D. E., & Glavas, A. (2024). Corporate social responsibility and individual behaviour. *Nature human behaviour*, *8*(2), 219-227.

Al-Romeedy, B. S., & El-Sisi, S. A.-W. (2024). Is green performance affected by green transformational leadership in travel agencies? The mediating roles of green organizational identity and green innovation. *Journal of Human Resources in Hospitality & Tourism*, *23*(3), 508-530.

Al Daboub, R. S., Al-Madadha, A., & Al-Adwan, A. S. (2024). Fostering firm innovativeness: Understanding the sequential relationships between human resource practices, psychological empowerment, innovative work behavior, and firm innovative capability. *International Journal of Innovation Studies*, *8*(1), 76-91.

Al Nuaimi, F. M. S., Singh, S. K., & Ahmad, S. Z. (2024). Open innovation in SMEs: A dynamic capabilities perspective. *Journal of Knowledge Management*, *28*(2), 484-504.

Ali Ahmad, K., Dr. Sajjad Ahmad, A., & Asad, J. (2023). Sustainable Strategies: Unveiling The Nexus Of Green Hrm, Green Knowledge Sharing, And Eco-Innovation In Afghan Smes. *International Journal of Contemporary Issues in Social Sciences*. *2*(4), 1153-1165.

Almazrouei, F., Sarker, A. E., & Zervopoulos, P. (2024). Linking Change Readiness, Organizational Agility, Organizational Structure and Public Value-Driven Innovation Performance: An Integrative Framework. *University of Sharjah Journal for Humanities & Social Sciences*, *21*(4).

Arpaci, I., Karataş, K., Zeybek, G., & Haktanir, A. (2024). Environmental Attitude, Global Social Responsibility, and Digital Literacy: Predictors of Green Purchase Intentions Among Emerging Adults. In *Current and Future Trends on Intelligent Technology Adoption: Volume 2* (pp. 79-96). Springer.

Bankins, S., & Formosa, P. (2023). The ethical implications of artificial intelligence (AI) for meaningful work. *Journal of Business ethics*, *185*(4), 725-740.

Bergquist, M., Rolandsson, B., Gryska, E., Laesser, M., Hoefling, N., Heckemann, R.,…Björkman-Burtscher, I. M. (2024). Trust and stakeholder perspectives on the implementation of AI tools in clinical radiology. *European radiology*, *34*(1), 338-347.

Bradstreet, D. (2024). Textile mills in Pakistan.

Cao, T. T., & Le, P. B. (2024). Impacts of transformational leadership on organizational change capability: a two-path mediating role of trust in leadership. *European Journal of Management and Business Economics*, *33*(2), 157-173.

Chakraborty, S., & Kwon, W.-S. (2024). Are You Supporting CSR Because It's Important or Because It's Cool? Influences of Internal and External Attributions on Company Believability and Attitude. International Textile and Apparel Association Annual Conference Proceedings,

Chaokromthong, K., & Sintao, N. (2021). Sample size estimation using Yamane and Cochran and Krejcie and Morgan and green formulas and Cohen statistical power analysis by G* Power and comparisions. *Apheit International Journal*, *10*(2), 76-86.

Chen, W., Xie, Y., & He, K. (2024). Environmental, social, and governance performance and corporate innovation novelty. *International Journal of Innovation Studies*, *8*(2), 109-131.

Chopra, S. S., Senadheera, S. S., Dissanayake, P. D., Withana, P. A., Chib, R., Rhee, J. H., & Ok, Y. S. (2024). Navigating the challenges of environmental, social, and governance (ESG) reporting: The path to broader sustainable development. *Sustainability*, *16*(2), 606.

Del Gesso, C., & Lodhi, R. N. (2025). Theories underlying environmental, social and governance (ESG) disclosure: a systematic review of accounting studies. *Journal of Accounting Literature*, *47*(2), 433-461.

Dey, M., Bhattacharjee, S., Mahmood, M., Uddin, M. A., & Biswas, S. R. (2022). Ethical leadership for better sustainable performance: Role of employee values, behavior and ethical climate. *Journal of Cleaner Production*, *337*, 130527.

Duong, C. D., Vu, T. N., Ngo, T. V. N., Chu, T. V., & Pham, L. H. T. (2024). Who can you trust? The curvilinear effects of producer-retailer trust (im) balance in organic food consumption–The moderation role of trust in blockchain technology. *Journal of retailing and consumer services*, *81*, 104039.

Dziubaniuk, O., & Aarikka-Stenroos, L. (2025). Ethical value co-creation in circular economy ecosystems: a case study of the textile industry. *Journal of Business & Industrial Marketing*.

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). Stakeholder theory: The state of the art.

Ginting, Y., Chandra, T., Miran, I., & Yusriadi, Y. (2023). Repurchase intention of e-commerce customers in Indonesia: An overview of the effect of e-service quality, e-word of mouth, customer trust, and customer satisfaction mediation. *International journal of data and network science*, *7*(1), 329-340.

Han, Z., Wang, L., & Cui, K. (2021). Trust in stakeholders and social support: risk perception and preparedness by the Wenchuan earthquake survivors. *Environmental Hazards*, *20*(2), 132-145.

Ibrahim, S. (2022). Driving eco-innovation through green transformational leadership: The power of employee voluntary green behavior. *Qlantic Journal of Social Sciences and Humanities*, *3*(2), 59-76.

Ibrahim, S., Waseem, M., & Scholar, I. P. (2025). Leading Green, Innovating Clean: Exploring the Path from Transformational Leadership to Eco-Innovation through Employee Behavior. *Journal of Business and Management Research*, *4*(1), 995-1029.

Iqbal, J., & Parray, Z. A. (2025). Leading with integrity: illuminating the pathway to positive job outcomes through ethical leadership and CSR. *Social Responsibility Journal*, *21*(2), 320-336.

Juwaini, A., Chidir, G., Novitasari, D., Iskandar, J., Hutagalung, D., Pramono, T.,…Sulistyo, A. (2022). The role of customer e-trust, customer e-service quality and customer e-satisfaction on customer e-loyalty. *International journal of data and network science*, *6*(2), 477-486.

Khamisu, M. S., Paluri, R. A., & Sonwaney, V. (2024). Stakeholders' perspectives on critical success factors for environmental social and governance (ESG) implementation. *Journal of environmental management*, *365*, 121583.

Khan, M. A., Khan, A., Hassan, M. K., & Maraghini, M. P. (2024). Market response to environmental social and governance performance: A global analysis. *Research in International Business and Finance*, *67*, 102131.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610.

Lee, M. C. C., Lin, M.-H., Srinivasan, P. M., & Carr, S. C. (2024). Transformational leadership and organizational citizenship behavior: new mediating roles for trustworthiness and trust in team leaders. *Current Psychology*, *43*(11), 9567-9582.

Li, J., Noorliza, K., & Zhang, X. (2024). Enhancing environmental, social, and governance performance through new quality productivity and green innovation. *Sustainability*, *16*(11), 4843.

Martiny, A., Taglialatela, J., Testa, F., & Iraldo, F. (2024). Determinants of environmental social and governance (ESG) performance: A systematic literature review. *Journal of Cleaner Production*, *456*, 142213.

Matarazzo, M., Oduro, S., & Gennaro, A. (2024). Stakeholder engagement for sustainable value co-creation: Evidence from made in Italy SMEs. *Business Ethics, the Environment & Responsibility*.

Men, C., Fong, P. S., Huo, W., Zhong, J., Jia, R., & Luo, J. (2020). Ethical leadership and knowledge hiding: a moderated mediation model of psychological safety and mastery climate. *Journal of Business ethics*, *166*, 461-472.

Mohammad, W. M. W., & Wasiuzzaman, S. (2021). Environmental, Social and Governance (ESG) disclosure, competitive advantage and performance of firms in Malaysia. *Cleaner Environmental Systems*, *2*, 100015.

Östergård, N., Högberg, K., & Lundh Snis, U. (2025). Trust and Leadership in the Hybrid Workplace. 58 th Hawaii International Conference on System Sciences 2025 (HICSS),

Pakistan Bureau of Statistics, G. o. P. (2023). Homepage. Pakistan Bureau of Statistics.

Pirson, M., & Malhotra, D. (2011). Foundations of organizational trust: What matters to different stakeholders? *Organization science*, *22*(4), 1087-1104.

Sajid, R. N., Ibrahim, S., Qureshi, J. A., & Rooh, S. (2025). The Moderating Role of Competitiveness On The Effect Of Strategy Formulation Process On Innovation Performance Dimensions In Microfinance Banks Of Pakistan. *Center for Management Science Research*, *3*(3), 835-845.

Seow, R. Y. C. (2024). Determinants of environmental, social, and governance disclosure: A systematic literature review. *Business Strategy and the Environment*, *33*(3), 2314-2330.

Shaikh, I., & Randhawa, K. (2022). Managing the risks and motivations of technology managers in open innovation: Bringing stakeholder-centric corporate governance into focus. *Technovation*, *114*, 102437.

Sun, H., Bai, T., Fan, Y., & Liu, Z. (2024). Environmental, social, and governance performance and enterprise sustainable green innovation: Evidence from China. *Corporate Social Responsibility and Environmental Management*, *31*(4), 3633-3650.

Tang, K., Wang, Y.-y., & Wang, H.-j. (2024). The impact of innovation capability on green development in China's urban agglomerations. *Technological forecasting and social change*, *200*, 123128.

Textile exports rise by 9.67% to $9.08bn in H1 FY25. Pakistan Today. (2025).

Truant, E., Borlatto, E., Crocco, E., & Sahore, N. (2024). Environmental, social and governance issues in supply chains. A systematic review for strategic performance. *Journal of Cleaner Production*, *434*, 140024.

Victor, B., & Cullen, J. B. (1988). The organizational bases of ethical work climates. *Administrative science quarterly*, 101-125.

Wang, J., & Zhang, S. (2024). Environmental protection tax, green innovation, and environmental, social, and governance performance. *Finance Research Letters*, *65*, 105592.

Xu, Y., & Zhu, N. (2024). The effect of environmental, social, and governance (esg) performance on corporate financial performance in china: Based on the perspective of innovation and financial constraints. *Sustainability*, *16*(8), 3329.

Yang, C., Yang, R., Zhou, Y., & Liu, Z. (2024). E, S, and G, not ESG: Heterogeneous effects of environmental, social, and governance disclosure on green innovation. *Corporate Social Responsibility and Environmental Management*, *31*(2), 1220-1238.

Yu, Z., Farooq, U., Alam, M. M., & Dai, J. (2024). How does environmental, social, and governance (ESG) performance determine investment mix? New empirical evidence from BRICS. *Borsa Istanbul Review*, *24*(3), 520-529.

Zhang, H., Lai, J., & Jie, S. (2024). Quantity and quality: The impact of environmental, social, and governance (ESG) performance on corporate green innovation. *Journal of environmental management*, *354*, 120272.

Zhang, N., Yang, C., & Wang, S. (2024). Research progress and prospect of environmental, social and governance: A systematic literature review and bibliometric analysis. *Journal of Cleaner Production*, *447*, 141489.

Zuhroh, S., & Rini, G. P. (2024). Product innovation capability and distinctive value positioning drivers for marketing performance: a service-dominant logic perspective. *International Journal of Innovation Science*.