



From Compliance to Commitment: An Analysis of Sustainable Waste Management Practices in Pakistan's Export-Oriented Textile Marketing

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Article Information	Abstract	
Article history: Submitted: 1 st June, 2026 Accepted: 28 th June, 2026 Published: 30 th June, 2026	<i>In the current era of environmental sustainability, manufacturing industries are facing a growing scrutiny, which forces them to rethink their concepts and practice of waste management. Pakistan's textile industry is one of the most vital industries in the country's economy, having a great impact on export revenues, and is simultaneously faced with high demand from the international market and considerable environmental responsibility. The aim of this study is to analyse the challenges faced by export-oriented textile companies in Pakistan in moving from compliance to internalized responsibility for adopting and implementing sustainable waste management practices.</i>	
Volume No. 06 Issue No. 01 ISSN: 2790-7899		<i>By using a qualitative exploratory research design, this study interviewed 10 export-oriented textile companies with different managers such as managers, sustainability officers, compliance managers, and environmental health and safety professionals in the Punjab and Sindh provinces. Braun and Clarke's (2006) thematic analysis 6 phases were used to derive themes inductively from the data.</i>
Keywords: Sustainable waste management; textile industry; Pakistan; Environmental compliance; Sustainability commitment; Thematic analysis; Export-oriented firms		<i>The analysis has identified ten core themes that are portrayed along two axes (enablers and barriers). Key enablers are focused on: buyer pressure, market pressure, leadership commitment, organisation learning and training, corporate reputation and internal monitoring systems. Dominant barriers include resource and cost constraints, regulatory inefficiency, lack of employees' awareness and skills, cultural resistance, and short-term export pressures. The study formulates a thematic framework that shows how external institutional pressures relate to and either accelerate or impede the transition from compliance to commitment.</i>
		<i>Theoretically, the study adds to the existing works of literature on sustainability management, institutional theory, and stakeholder theory by situating the process of sustainability adoption in a sector that is export-oriented in an emerging economy. In practical terms, it offers pertinent suggestions for managers, policy makers and foreign buyers to promote a genuine culture of sustainability within the textile sector in Pakistan.</i>

Introduction

In fact, the need for sustainable development has changed the way manufacturing industries operate all over the world. Businesses, especially those that consume resources, are increasingly under pressure to incorporate environmental responsibility into their basic operational structures

due to the growing effects of industrial pollution, resource depletion, and the lack of regulation regarding waste disposal (Ates et al., 2026a). Waste management is one of the major aspects of corporate sustainability, not only focusing on the disposal of waste by-products but also on the transformation of production processes to become more efficient in terms of the use of resources, the circular economy and pollution prevention (Kırkın et al., 2025).

The textile industry is in a very special position in the global manufacturing industry and is also very critical for environment. The production of textiles is a highly resource intensive process as it consumes huge quantities of water, energy and chemical inputs in its value chain (Ningsih et al., 2026a). The environmental impact of textile industry is significant and multifaceted. The wastewater from dyeing, finishing, and chemical processing activities is rich in heavy metals, organic compounds, and toxic substances that can have a significant impact on aquatic ecosystems and human health (Ashraf & Karkare, 2023). Other dimensions of the environmental burden of solid waste streams from fabric cutting and stitching operations, solid waste packaging waste, and sludge from effluent treatment plants also exist (Mangistie Mamaru, 2026). In addition, carbon emissions from energy-consuming processes, chemical pollution from dyestuffs and finishing agents, and microplastic pollution from synthetic fiber manufacturing create a holistic challenge for the global textile industry that needs to be urgently tackled (Hoque & Jewel, 2025).

Textile industry is a key industry of Pakistan accounting for about 60% of the total export revenue of the country and employing more than 40% of the country's industrial labour force. It covers the vertically integrated value chain of cotton growing and ginning, spinning, weaving, knitting, dyeing, finishing, and garment manufacturing. This is a long value chain which makes the textile industry in Pakistan highly susceptible to environmental challenges, since the production process utilizes a lot of water and chemicals, which leads to a huge amount of wastewater generation, solid waste generation, hazardous chemicals and energy-related emissions (Razzak, 2023).

The environmental problems facing Pakistan's textile industry are aggravated by the industry's reliance on export markets, especially in Europe and North America. The demands of international buyers and global supply chain participants have increasingly increased and sustainability compliance is now a core requirement for market access (Dewan & Alam, 2022). The growing number of sustainability frameworks and certification standards such as the EU Green Deal, the Higg Index developed by the Sustainable Apparel Coalition, OEKO-TEX certification, ISO 14001 environmental management systems, the Global Reporting Initiative and ESG (Environmental, Social, and Governance) frameworks, results in a complex regulatory and market-driven environment that export-oriented companies have to navigate (Güngör & Turgut, 2025). Sustainability audits of supply chains are now a standard practice and non-conformance to environmental requirements is a potential threat for losing access to premium international markets (Chimakulpanrob, 2026).

In the face of growing number of sustainability standards and advancement of sustainability auditing systems, one question still remains unanswered: why do Pakistani textile industries implement sustainable waste management policies, is it due to their genuine commitment to environmental sustainability or due to complying with external environmental auditing systems? The difference between compliance-based and commitment-based sustainability has with serious consequences for the depth, sustainability, and transformative power of environmental practices in organisations (M. H. Uddin et al., 2023).

Compliance-based environmental behavior is when organizations respond to external demands such as regulatory requirements, buyer audit requests, certification requirements and the risk of being excluded from markets. In this one, companies engage in the bare minimum to meet external assessment agencies, but do not integrate sustainability into their culture, values and strategic focus (Khaerani, 2025). Sustainability, on the other hand, with commitment, refers to a more intimate embedding of environmental values in organizational strategy, leadership vision, employee attitudes and behaviors, and operational decision-making—and is a proactive attitude that goes beyond what is required by outside watchers (Siliņa et al., 2024).

A careful review of the literature showed that the majority of the studies conducted so far in the textile industry in Pakistan have been quantitative, based on measurable environmental performance indicators, practices of green supply chain management, and adherence to particular standards (Brandenburg et al., 2022). This quantitative focus, although beneficial, has neglected the understanding and interpretation of sustainability from a subjective perspective of managers, the organizational and cultural obstacles to transition beyond mere compliance and the influence of leadership mindsets on environmental practices, as well as the need for internal transformation processes to enable a firm's commitment to sustainability (Patwary et al., 2024). It is thus an urgent need to investigate this transition from a qualitative perspective, both perceptual and experiential.

The purpose of this study is to explore how export-oriented textile firms in Pakistan understand, implement, and sustain waste management practices, and how these firms navigate the transition from compliance-based environmental responses toward genuine, internalized sustainability commitment. This study has a contribution of three levels of academic and practical knowledge: There are three interrelated levels of contribution to academic and practical knowledge: In theory, it adds context to the sustainability management field, the institutional field, and the stakeholder field, by grounding the shift from compliance to commitment in the context of an emerging economy's export-focused manufacturing sector, which has received limited attention in comparison to its global environmental significance. The study contributes to the understanding of how the sustainability adoption is mediated by the managerial perception and organizational culture, thus foregrounding these as factors in sustainability adoption.

In the practical aspect the study offers specific advice for textile managers, compliance officers, sustainability professionals and production heads. The study provides an empirically supported and conceptually sound blueprint for designing more successful waste management systems and fostering a more sustainable culture in organizations by mapping the enablers and barriers to moving from compliance to commitment in waste management. Policy relevance is also high: The results provide scientific underpinning for policy decisions about the effectiveness of enforcement-based environmental management strategies and the necessity for other incentive-based instruments, industry development initiatives, and improved environmental governance.

Literature Review

Sustainable Waste Management: Conceptual Foundations:

Sustainable waste management is a holistic approach, more than just the physical act of waste disposal, as well as a strategy and systems approach in managing all resources for sustainability and environmental responsibility. Sustainable waste management is essentially the implementation of the waste hierarchy (prevention, reduction, reuse, recycle, recover, safe disposal) in order to reduce the environmental impact of industrial waste production activities (Sdiri, 2023). The notion of circular economy, which aims to maximise the value of waste by keeping it in the system through closed-loop production systems where 'waste' is eliminated by

design (D. Ahmed & Siddiqui, 2025), is now being incorporated into contemporary conceptions of sustainable waste management.

From an industrial perspective, sustainable waste management involves various industrial practices such as waste segregation at source, reuse and recycling of materials, treatment and reuse of wastewater, chemical management and substitution, cleaner production technologies, and systematic monitoring of waste generation and disposal (Villegas et al., 2026). Most importantly, sustainable waste management is viewed not only as a technical activity of operation but as a strategic practice that depends on an organization in which it is embedded, and requires continuous leadership efforts, adequate financial and human resources, employee awareness and training, and meaningful performance monitoring systems (Ishaq et al., 2026a).

The importance of organizational culture and managerial cognition in influencing effectiveness of waste management practices has been highlighted in recent scholarship (Sutter et al., 2015). Companies that have waste reduction as a core element of their strategy, organizational values and employee incentives have better environmental performance than companies that consider waste as a secondary obligation for compliance (N. R. Khan et al., 2025). The strategic-compliance orientations distinction is especially relevant in industries with international sustainability demands and export activities.

Environmental Challenges of the Textile Industry:

It is well known that the textile industry is one of the most polluting industries in the world. The textile manufacturing process consists of multiple chemical and physical treatment phases; fiber production, spinning or knitting, dyeing and printing, finishing, and garment assembly, all have unique environmental impacts (Jayasekara & Adams, 2026). The problem is even more severe in the case of water consumption, in conventional textile dyeing and finishing industries, huge quantities of water is used and effluents produced from these processes contain heavy metals, azo dyes, surfactants, bleaching agents, and other hazardous chemicals (Rayhan et al., 2026).

Solid waste generation is a further environmental problem. The real waste streams that need attention consist of fabric scraps from cutting processes, faulty products, yarn waste, packaging waste, and effluent treatment plants sludge (Amjad et al., 2025). These problems are compounded in developing country settings by poor waste collection, treatment, and disposal conditions, and low capacity for regulatory enforcement, as well as financial limitations on the part of smaller businesses that may not have the resources to implement complex environmental management systems (Kania & Bukhori, 2025).

The environmental governance environment is unique in the textile exporting countries such as Pakistan, Bangladesh, India, Vietnam and China (Iqbal & Mahdi, 2025). These companies have to deal with the domestic regulatory environment, which sometimes has weak enforcement and institutional gaps, as well as environmental standards demanded by their internal customers international buyers and international certification bodies (F. Ahmed, 2021). Previous studies in the garment industry in Bangladesh have shown that pressures from buyers can be strong drivers for the adoption of environmental practices, however, can also result in 'compliance theatrics' rather than the sustainable change of practices within the organisation if the organisation has a lack of internal capabilities or leadership commitment to sustain the improvement beyond audit cycles (Kasthuri et al., 2025).

Compliance to Commitment: Theoretical Framework:

Since the late 1990s, the difference between compliance-based and commitment-driven environmental behavior has been one of the main preoccupations of the research on environmental management. The seminal paper by Asif et al. (2025) provided a theoretical ground for the analysis of how firms can go beyond compliance with the law to the strategic management of the environment leading to competitive advantage and learning. These authors, based on the resource-based view of the firm, proposed that if a firm's proactive environmental strategies, defined as pollution prevention, product stewardship, and sustainable development orientation are deeply integrated within the processes and values of the firm then they generate a valuable, rare, and inimitable capability (Asif et al., 2025).

Mondal et al. (2024) subsequently developed this conceptual landscape by separating the substantive pro-ecological behaviour from 'environmental decoupling' companies appear to be symbolically sustainable while not changing how they operate (Ates et al., 2026b). They have found that there are three main reasons behind the decision to respond ecologically by companies: competitive advantage, legitimation, and ecological responsibility (the most profound type of commitment to the environment).

Since then, scholarship has extended these distinctions in the context of organizational ambidexterity and the concept of organizational dynamic capabilities. Karahan et al. (2023) found that the companies that are 'closing the say-do gap' by matching their communication to their environment management have better long-term environmental and financial results. Likewise, Farrukh et al. (2022) have identified sustainability-oriented leadership and organizational learning capabilities as important mediating factors in the process of converting external environmental pressures into actual internal commitment.

Table 1: Comparison Between Compliance-Based and Commitment-Driven Sustainability Approaches

Aspect	Compliance-Based Approach	Commitment-Driven Approach
Motivation	External pressure from buyers, regulators, and certifiers	Internal values, strategic vision, and ethical responsibility
Time Orientation	Short-term; focused on passing audits and inspections	Long-term; oriented toward sustained environmental improvement
Main Driver	Buyer audit requirements and regulatory mandates	Leadership vision, organizational culture, and strategic integration
Employee Role	Follow prescribed instructions during audit periods	Active participation in sustainability initiatives
Waste Management	Minimum required actions to satisfy external standards	Continuous improvement and proactive waste reduction
Monitoring	External audit-driven documentation and verification	Internal performance monitoring and transparency
Investment	Minimal; perceived as a compliance cost	Strategic; perceived as long-term value creation
Outcome	Certification approval and market access retention	Sustainability transformation and competitive differentiation

Institutional and Stakeholder Pressures:

The neo-institutional theory offers a valuable analytical tool to explain the nature of organizational environmental practices. M. S. Uddin et al. (2025) discussed three types of institutional isomorphism that help organizations in a field to conform to each other: coercive, normative, and mimetic. Coercive pressures in the textile industry sustainable context come from export market access conditions, buyer contract requirements, environmental laws and regulatory bodies.

Normative pressures include professional standards, certification systems like ISO 14001 or OEKO-TEX and industry association standards and sustainability courses (Ningsih et al., 2026b). These pressures influence what managers think is appropriate environmental behavior and what the norms are for their profession (A. Bin Ahmed & Hashim, 2026). Mimetic pressures occur when firms do not know what constitutes the best environmental practices, and take up the practices of firms they believe are successful or legitimate, especially in competitive export markets where sustainability performance becomes more visible and is benchmarked (Maurya et al., 2025).

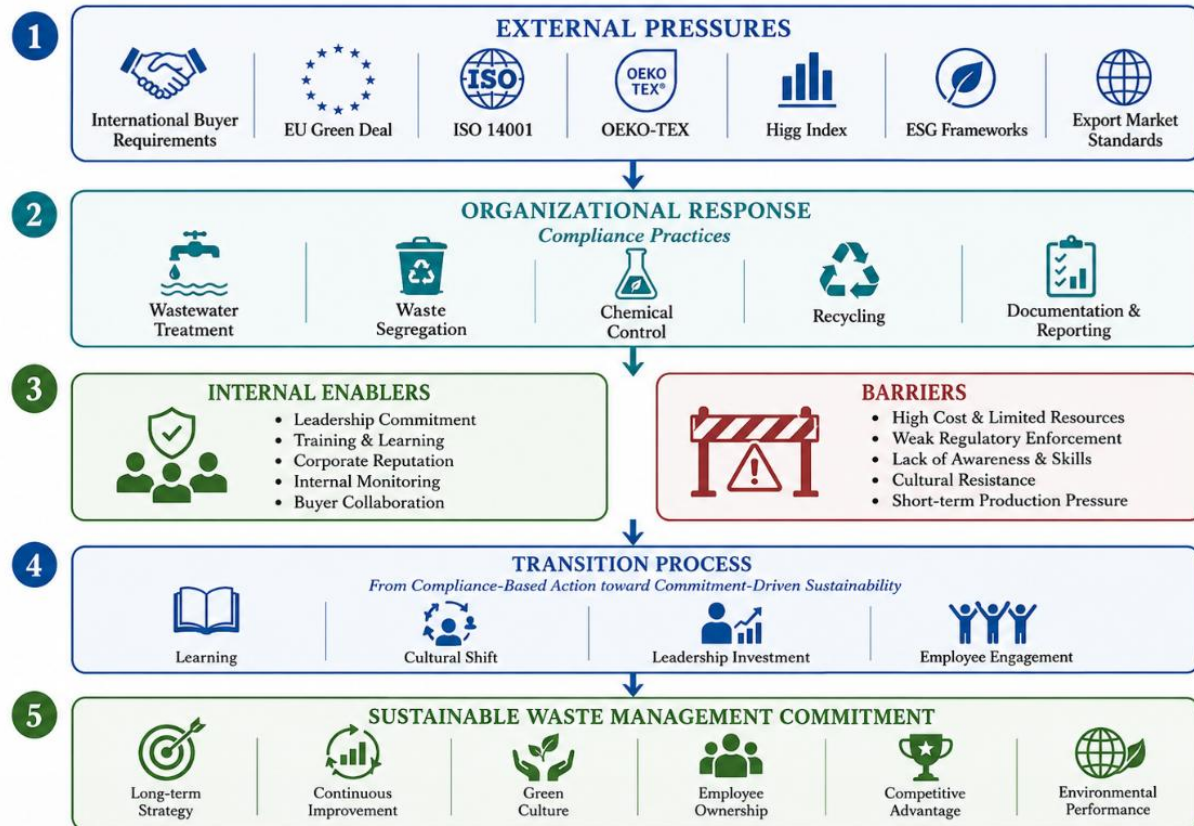
Research Gap:

Though there is a huge volume of literature associated with sustainability in the global textile industry, there are still several gaps in knowledge regarding the qualitative aspects of sustainability uptake in the export-imported textile sector in Pakistan. Most current studies have used quantitative approaches, such as surveys that examine environmental performance indices, statistical analysis of the use of green supply chain management practices, and econometrics to evaluate the outcomes of sustainability compliance (Asumakah, 2026). Although these studies offer important insights at the macro-level, at the core they are unable to reveal the subjective experiences, perceptual frameworks, and cultural dynamics that influence sustainability behavior at the organizational level (mangistie Mamaru, 2026b).

In particular, there is a lack of literature that explicitly explores and explains the following important dimensions: how managers subjectively build and create meaning of sustainability commitment; why firms can persist at the compliance level for a number of years despite the external pressures; how leadership philosophy and organizational culture interact and strengthen or weaken the process of sustainability transformational learning; what specific internal barriers exist beyond resource constraints that prevent the institutionalization of sustainability values; and how buyer pressure can act as a powerful compliance trigger while simultaneously limiting or enhancing the process of deeper organizational learning and commitment. The current research aims to tackle these issues by in-depth qualitative thematic analysis of managerial experiences and perceptions in export-oriented textile industry in Pakistan.

Conceptual Foundation:

This study's conceptual framework combines the concepts of institutional, stakeholder and organizational learning theory to shed light on the mediating processes between external sustainability pressures and real internal commitment. As shown in Figure 1, the study assumes that external pressures (from buyers, regulators, certification bodies and market expectations) induce initial organizational reactions in the form of compliance-based practices. These answers are then shaped by a web of internal enablers and inhibitors such as leadership buy-in, organizational culture, resource capabilities, employee awareness and regulatory performance, which collectively drive the firm forward on a journey of genuine sustainability commitment or maintaining compliance-based activity.



Research Methodology

Research Design:

The method of this study is qualitative exploratory research and approach is interpretivist paradigm (Fassinger & Morrow, 2013). Qualitative research is especially suited for understanding how people make sense, how they interpret their experiences, and how they engage in complex processes within the organization; goals that are fundamentally at odds with the statistical measurement goals of quantitative research (Onwuegbuzie & Leech, 2005). Given the complexity of the compliance to commitment transition in sustainable waste management, it requires an approach that can reflect the intricate perception, context and organizational dynamics that shape managerial behaviour in Pakistan textile sector.

Qualitative inquiry allows the researcher to focus on phenomena in their natural organizational context, listen to the voices and subjective interpretations of the participants, and develop theoretically rich insights that would lead to conceptual development and practical understanding. The exploratory design was best suited to the present research because the field of sustainability adoption processes in textile industry has been limited in qualitative research evidence and there is a need for conceptual insights that can be used in future research and professional practice.

Sampling Strategy:

To ensure that the participants had experiences and organizational knowledge of directly relevant waste management practices and sustainability governance in export oriented textile

companies, purposive sampling was used (Snyder, 2019). Purposive sampling method is relevant to the epistemological approach of qualitative research that is based on the richness of information rather than statistical representation. The selected participants were individuals directly working in the areas of sustainability management, compliance operations, environmental health and safety, production management and wastewater treatment in export-based textile companies.

The study involved ten participants from export oriented textile industries in the geographic areas where the textile industries are mostly concentrated in Pakistan which are Punjab and Sindh provinces. Many of these participants had a wide range of professional roles including sustainability management, compliance supervision, production management, quality assurance, environmental health and safety, and wastewater treatment supervision. This is intentional, and reflects a variety of professional perspectives with the aim of capturing the multi-dimensional nature of organizational reality within waste governance, rather than merely a functional perspective. The data was collected until theoretical saturation was reached, i.e., when further interviews revealed no longer new substantive insights in the themes (Fereday & Muir-Cochrane, 2006).

Table 2: Participant Profile

Code	Position	Firm Type	Province	Experience
P1	Sustainability Manager	Garment Export Firm	Punjab	8 years
P2	Compliance Officer	Textile Processing Firm	Sindh	6 years
P3	Production Head	Knitting and Dyeing Unit	Punjab	12 years
P4	EHS Officer	Export Textile Unit	Sindh	7 years
P5	Quality Manager	Apparel Export Firm	Punjab	10 years
P6	Wastewater Treatment Supervisor	Textile Processing Firm	Sindh	9 years
P7	Compliance Manager	Denim Export Firm	Punjab	11 years
P8	Sustainability Officer	Home Textile Firm	Sindh	5 years
P9	Production Manager	Garment Manufacturing Firm	Punjab	13 years
P10	EHS Manager	Integrated Textile Unit	Punjab	15 years

Data Collection:

The data collection methods used were in-depth interviews with the ten participants, using a semi-structured format. In recognition of the flexibility to explore emergent topics in great depth, while also providing thematic structure for the interview, enabling consistency across participant accounts, and following the suggestions of Fereday & Muir-Cochrane (2006), semi-structured interviewing was chosen as the most appropriate data collection method. The interviews were conducted for 45 to 75 minutes, either face-to-face at the interviewee's facility or through secure video.

Interviews were audio-recorded with informed consent of each participant and conducted in the language most comfortable for the participant (Urdu and English). All interviews were verbatim transcribed within 48 hours of each interview, for accuracy and contextual fidelity. Urdu

medium interviews were transcribed with the help of a bilingual research assistant and were back translated and checked for accuracy.

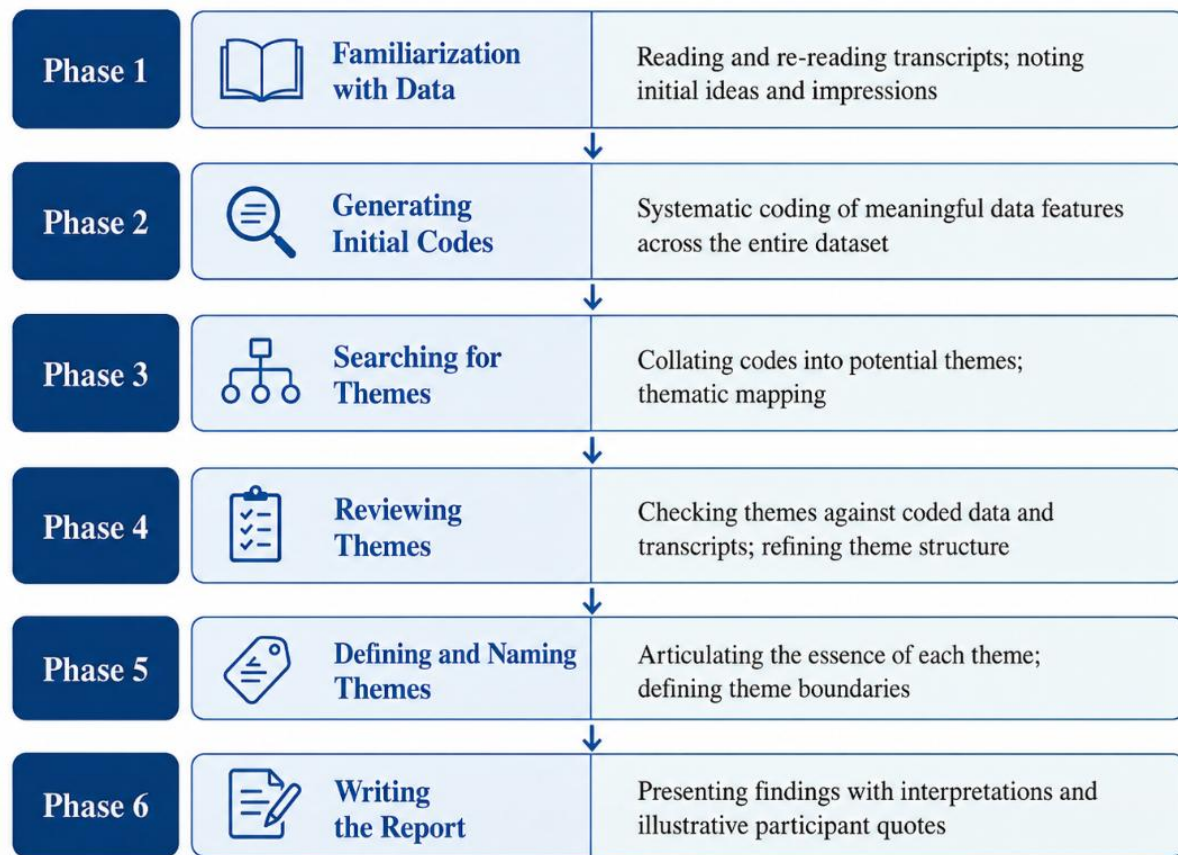
The interview protocol was designed after a thorough review of literature and tested by piloting it on one (not included in the main sample) industry practitioner. The thematic areas discussed were current waste management policies and practices, waste reduction activities and recycling, wastewater treatment processes, buyer and regulatory pressures and perceived impact, certificate experiences and audit responses, attitudes of leadership and organizational culture related to sustainability, training and capacity development of employees, barriers and challenges faced and the participant's personal view on whether their company's sustainability practices were compliance based or commitment based.

Data Analysis: Thematic Analysis:

Thematic analysis was performed on the data using the six phases of thematic analysis framework described by Braun & Clarke (2006) which offers a systematic and transparent approach to identifying, reporting and analysing patterns of meaning in qualitative data. The flexibility, epistemological independence and ability to generate themes inductively and deductively were the reasons for choosing thematic analysis over other qualitative research methods, including grounded theory and discourse analysis, that were available, with the latter two being more widely used with data that are not empirical (Braun & Clarke, 2006).

Thematic analysis was used in this study, following the 6 phases outlined below. During Phase 1 (Familiarisation with data), all interview transcripts were read several times in full to become immersed in the data corpus and initial analytical notes taken. In Phase 2 (Generating initial codes), the transcripts were systematically coded on a line-by-line basis where codes identified meaningful portions of the text related to waste management practices, sustainability pressures, barriers, leadership behaviors, employee responses, and organizational culture. In Phase 3 (Searching for themes), related codes were brought together to develop candidate themes, which were then put into a visual form in thematic mapping to illustrate how codes relate to each other. Phase 4 (Reviewing themes) involved a process of review of candidate themes against the coded data and whole transcripts to check for coherence, distinctiveness and analytical relevance. In Phase 5 (Defining and naming themes), the specific definition and the naming of the boundaries, internal logic, and connection with the research questions of each theme were made clear. Phase 6 (Writing the report) included the production of the narrative account of themes that were presented in the findings section, along with some representative quotations of the participants, which helped to provide a foundation for the interpretation of the findings in empirical evidence. NVivo 14 qualitative data analysis software was used for coding and thematic organization. To allow themes to surface from the data instead of being forced in from existing theories, inductive coding was given preference.

Figure 2. Braun and Clarke's (2006) Six-Phase Thematic Analysis Process



Trustworthiness and Rigor:

The credibility, dependability, transferability and confirmability of this study were assessed as the four criteria used for determining the trustworthiness of qualitative research and widely recognized as the equivalents of validity and reliability used in quantitative research.

Credibility was achieved through member checking, by presenting a summary of themes that emerged from the data to 5 participants for verification and feedback, and extended interactions with participants during the interviews to gather in-depth and candid responses from the participants. A thorough audit trail was kept throughout the processes of methodological decisions, coding, theme development, and meaning-making, and this ensured dependability. To enhance the transferability of the findings, thick description of the research context was provided, such as the characteristics of the export-oriented textile industry in Pakistan, profiles of the participating firms and individuals, and specific organizational and regulatory environments in which the waste management practices are embedded. To ensure confirmability, reflexive journaling was conducted throughout the research process, peer debriefing with academic peers, and transparent documentation of interpretive choices to minimize researcher bias on the construction of themes.

Data Analysis and Findings

Thematic analysis of the interview data generated ten primary themes organized across two analytical dimensions: Enablers of Sustainable Waste Management (Themes 1–5) and Barriers to

Commitment (Themes 6–10). Together, these themes provide a comprehensive account of the organizational dynamics that characterize sustainable waste management in Pakistan's export-oriented textile sector and illuminate the factors that facilitate or impede the transition from compliance-based to commitment-driven sustainability.

Enablers of Sustainable Waste Management:

Theme 1: Buyer and Market Pressure as the Primary Compliance Trigger:

International buyer requirements emerged as the most consistently and powerfully cited driver of waste management practice adoption across all participants. Exporting Pakistan textile units appear to be reactionary to external pressures, be it buyers, audit or certification, to start Environmental Activities, with no internal Sustainability Drivers and/or Interests. European and North American buyers demand an environmental management system in their export suppliers, with a certified ISO 14001, compliance with OEKO-TEX, participation of ZDHC Chemical Transparency and an established wastewater treatment facility.

"Most of our environmental practices started because our buyers demanded them. Without buyer audits, many firms would not move this fast. The buyer is the real regulator for export firms in Pakistan." — P2, Compliance Officer

Participants indicated that the first stage of the buyer-sustainability relationship was mostly transactional. Companies put money into waste management systems, document systems, and compliance training to meet audit needs and keep export contracts. Most participants indicated that buyer pressure intensified due to the EU Green Deal and the emerging ESG-related demands in international procurement. However, participants noted that if the buyer maintained long, active engagements which included contact, buyer development programs, and long-term engagements, it would help provide the setting in which the firm would learn and develop compliance, as opposed to sustainability, which would be more internalized.

Theme 2: Leadership Commitment and Sustainability Vision:

Leadership philosophy and the commitment of upper management was described as the most influential of all internal factors for the penetration of sustainability practices beyond audit-response. Participants noted that the companies where the upper management, especially the CEOs and managing directors, framed sustainability as a priority for the organization, and viewed environmental responsibility as a business strategy rather than a compliance issue, were the companies where sustainability practices were most advanced.

"Our CEO believes sustainability is the future of exports. He does not see waste management only as a cost but as a long-term investment. This attitude changes everything—it gives us the authority to invest in proper systems rather than just minimum compliance." — P1, Sustainability Manager

There was a clear difference among participants for firms with a strong sustainability commitment and firms that treated sustainability as a compliance issue. In firms with a strong commitment to genuine environmental leadership, that commitment was evident in decision making, public commitments to environmental goals, and the integration of environmental goals in management reviews, as well as a personal commitment to environmental goals. Such leadership resulted in motivated employees who more consistently practiced waste management and created a positive and sustainable environment within the firm. On the other hand, firms that practiced sustainability mainly through compliance personnel and with little executive support, resulted in participants having to face the same old challenges of getting resource commitments, overcoming

resistance to the organization's culture, and ensuring sustained improvements beyond the compliance audits.

Theme 3: Learning, Training, and Buyer Collaboration:

The various learning processes of an organization that ranged from formal training to learning from sustainability practitioners, developed beyond compliance practices, and were viewed as sustainability capabilities. Participants spoke of a greater sustainability culture and practice within an organization that received substantive support over compliance audits from its buyers as compared to those that received only compliance audits.

"When buyers provide technical training on waste segregation, wastewater treatment standards, and chemical management, our team does not just follow procedures—they understand why these practices are important. That understanding changes behavior in ways that audit requirements alone cannot achieve." — P8, Sustainability Officer

Training programs that effectively conveyed the sustainability rationale behind specific waste management practices (beyond general procedures) were successful in promoting the cognitive and motivational engagement to achieve sustained changes in behaviors. Many participants referenced successful collaborations with brands that implemented supplier development programs (e.g. Better Work Program, Sustainable Apparel Coalition's Higg FEM assessments, and capacity building programs by brands), as having revolutionized the technical and sustainability skills within their companies.

Theme 4: Corporate Reputation and Competitive Positioning:

An emerging theme across the participants was the growing understanding of sustainability as providing competitive benefit and reputational capital, as opposed to simply a compliance cost. With the global market increasingly rewarding companies for their sustainability efforts, companies with advanced skills in environmental management have been able to use these skills in negotiations with buyers, creating a competitive advantage and differentiating their brands in the market.

"Now sustainability is part of our marketing narrative. Buyers trust firms that can show proper waste records, environmental performance data, and verified certifications. It distinguishes us from competitors who only comply on paper." — P5, Quality Manager

From participants of companies that are more developed, a reputational system was described. In this case, sustainability investments, which at first were done to meet requirements, started giving companies an advantage, such as establishing business relationships with clients, allowing the company to sell their product at a better price, and giving the company the ability to enter more exclusive markets. This system was described as the best way to make the desire to meet requirements of a company turn into a goal. Examples of sustainability practices start yielding competitive advantages, and the desire to control and improve sustainability practices and environmental management starts becoming stronger.

Theme 5: Internal Monitoring and Documentation Systems:

Most participants agreed that sustainability management practices become self-sustaining when the company invests in building its ability to self-monitor, self-report, and self-manage sustainability performance. For most of the companies that built systematic environmental management information systems (publicly available or internal systems that tracked and measured volumes and/or concentrations of pollutants, Waste, water, chemicals, and Energy), the capacity to control and improve their own sustainability performance was significantly enhanced.

"We maintain detailed records of wastewater treatment efficiency, waste disposal volumes, and recycling rates because buyers check everything during audits. But over time, having this data has helped us identify inefficiencies and make genuine improvements, not just satisfy auditors." — P7, Compliance Manager

The introduction of internal monitoring systems was accompanied by changes in managerial thinking toward sustainability. As environmental data was collected and reviewed on a regular basis, sustainability performance placed the same level of importance to the organization as the financial and operational performance. Multiple participants described how the introduction of environmental key performance indicators (KPIs) in management reviews brought sustainability performance to a high level in the organization and created internal accountability mechanisms that were active between external audits.

Barriers to Sustainability Commitment:

Theme 6: Cost and Resource Constraints:

The financial costs were the most universally referenced barrier toward going beyond compliance-level sustainability. Medium sized and smaller export enterprises that operate with limited capital report significant costs as a barrier to investing in the construction and upgrading of effluent treatment systems, the implementation of industrial scale waste segregation and recycling systems, purchasing green chemistry options, and developing tailored environmental management systems.

"Everyone in the industry talks about sustainability as the future, but new technology, effluent treatment plants, and recycling systems require heavy capital investment that many firms—especially those without direct brand relationships—simply cannot access." — P3, Production Head

Cost barriers were described as operating at many levels. They were not only the direct capital costs of building the necessary environmental infrastructure, but also the many costs of operating environmental infrastructure. These included the costs of maintaining sustainability management, the costs of certification and auditing, and the opportunity costs of choosing sustainability over potential expansion of textile production. Several participants mentioned that the competitive structure of the export textile industry, characterized by a narrow profit margin, and heightened price competition and pressures, created additional barriers for firms to make the necessary environmental improvements beyond the minimum required to comply with regulations.

Theme 7: Regulatory Inefficiency and Weak Enforcement:

The insufficiency of Pakistan's domestic environmental regulations and the laxness of oversight were cited as major factors driving the sustainability behavior of the textile industry in Pakistan. Participants described a regulatory system where there were some environmental regulations, but most of the time they were not enforced, oversight was impaired by corruption and the agencies' lack of capacity, and firms that operated in domestic markets had very little environmental accountability, while export firms faced environmental accountability because of their international customers.

"If government environmental monitoring was applied consistently and seriously to all firms, the entire sector would take waste management more seriously. But currently, only export firms face real pressure because the real regulator is the international buyer, not the government." — P4, EHS Officer

This situation is the basis of a perverse incentive and paradox in which companies that made real investments and improvements in environmental management incurred costs that made them less competitive than those that took advantage of the weak enforcement of domestic

regulations. The lack of enforcement of regulations made it more difficult for companies to aim for strong environmental and sustainability performance. Many participants were of the opinion that stronger, more cohesive regulation, and real consequences for non-compliance would lead to a more competitive environmental improvement and sustainability focus across all companies, rather than concentrating environmental improvement and sustainability efforts on the export-related companies.

Theme 8: Lack of Awareness, Skills, and Technical Capacity:

Participants claimed that a major impediment to improving waste management practices was a lack of basic environmental awareness, coupled with a lack of technical skills among middle management and production workers. Participants noted the development of a robust skill base for workers to understand the reason for the environmental practices of the organization, and not just comply with them during audits, as a key enabler.

"Workers follow instructions during audits and inspections, but many of them genuinely do not understand the environmental purpose behind these practices. They see waste segregation and chemical handling as arbitrary rules, not as meaningful environmental actions. That limited understanding creates inconsistency." — P9, Production Manager

The gap in skills at the level of the middle management and lower management staff was a consequence of a lack of understanding of environmental management systems and cleaner production technologies. For example, waste quantification and methodologies inhibited firms from developing advanced waste management systems. The study participants listed lack of relevant technical education, limited specialized sustainability training in Pakistan's textile industry, and high staff turnover as related issues that perpetuated gaps in skills at all levels of management.

Theme 9: Cultural Resistance and Employee Mindset:

Resistance to change at the organizational level was considered one of the hardest and most deeply rooted barriers to real commitment to sustainability. This was manifested in the unwillingness of employees to change their behaviors in line with the organization's sustainability goals, the perception that environmental requirements were an extra workload, and the retention of production-mindsets as opposed to sustainability-oriented mindsets.

"At the beginning of our sustainability initiatives, many employees viewed waste segregation, chemical documentation, and recordkeeping requirements as additional burdens imposed by management. It took considerable time and effort to change their thinking and make sustainability part of how they approach their daily work." — P10, EHS Manager

Strong resistance to change was noted, particularly in firms that had lengthy traditions of strict compliance to state-sponsored environmental management. In those firms, a culture of strained compliance to ensure a successful environmental audit had become an ingrained feature of everyday work. The challenge of changing this type of culture was, in the view of participants, of a completely different nature than improving technical compliance. In this case, a consistent commitment of time to explain and actively engage employees, coupled with a commitment to sustain new workplace behaviors, was required of the firm's leaders for the new culture to take hold. This was a greater challenge than setting up new procedures and documenting compliance, which were sufficient to meet technical compliance.

Theme 10: Short-Term Export Pressures and Production Priority Conflicts:

The pressures of export production stemming from tight shipment deadlines, work that must be done in a defined time period, quick completion of work, and the dominant focus on production in the evaluation of workplace performance, were identified as creating persistent conflicts with the sustainability goals that the organization wanted to realize.

"When shipment deadlines approach, production targets become the unambiguous organizational priority, and sustainability practices receive reduced attention and resources. People cut corners on waste segregation, skip documentation steps, and delay environmental monitoring. This happens in most firms, I think." — P6, Wastewater Treatment Supervisor

The short-term export pressure barrier was closely linked with the compliance orientation identified in earlier themes: firms primarily motivated by audit performance rather than genuine environmental commitment were particularly susceptible to sustainability practice deterioration during high-pressure production periods, as the external incentive structure (buyer audits) was temporally discontinuous with production operations. Some of the respondents from companies that had a more advanced sustainability culture stated that they resolved this issue by routing the metrics of environmental performance to the production management system and defining non-negotiable minimum standards that could not be waived during production peaks.

Table 3. Thematic Analysis: Themes, Sub-Themes, Codes, Illustrative Quotes, and Interpretations

Main Theme	Sub-Themes	Sample Codes	Illustrative Quote	Interpretation
Buyer & Market Pressure	Buyer audits; certifications; export requirements; market access conditions	buyer demand; audit compliance; certification; export survival	<i>Most of our practices started because buyers demanded them.</i>	Buyer pressure is the primary compliance trigger; acts as the gateway to environmental practice adoption.
Leadership Commitment	Top management support; sustainability vision; long-term investment philosophy	CEO support; strategic priority; management commitment; board direction	<i>Our CEO sees waste management as a long-term investment.</i>	Leadership transforms compliance into internal commitment; sets the organizational tone for sustainability.
Learning & Collaboration	Training programs; buyer workshops; supplier development; knowledge sharing	training; awareness; technical support; capacity building	<i>When buyers provide training, our team understands why these practices matter.</i>	Knowledge development and organizational learning support deeper sustainability adoption.
Corporate Reputation	Market image; buyer trust; competitive differentiation; brand value	reputation; marketing advantage; buyer trust; competitive edge	<i>Sustainability is part of our marketing narrative.</i>	Sustainability provides competitive advantage and reputational incentives beyond compliance.
Internal Monitoring	Documentation systems; performance tracking; environmental KPIs; audit records	records; reporting; monitoring; performance indicators	<i>Having this data has helped us identify inefficiencies and improve.</i>	Monitoring systems institutionalize waste management and drive continuous improvement.
Cost & Resource Constraints	Capital investment; limited financing; expensive	cost burden; technology investment;	<i>New plants and systems require heavy investment many firms cannot access.</i>	Financial limitations are the primary structural barrier to moving beyond compliance.

	technology; margins	thin	limited budget; ETP capital		
Regulatory Inefficiency	Weak enforcement; inconsistent monitoring; policy gaps; corruption		weak regulation; poor enforcement; policy inconsistency; institutional gaps	<i>Only export firms face real pressure—the real regulator is the buyer.</i>	Weak domestic regulation creates perverse competitive incentives and reduces intrinsic sustainability motivation.
Lack of Awareness & Skills	Limited training; technical skill gaps; knowledge deficits; staff turnover		awareness gap; skill shortage; conceptual misunderstanding	<i>Workers follow procedures during audits but do not understand the environmental purpose.</i>	Knowledge deficits limit behavioral consistency and organizational learning capacity.
Cultural Resistance	Employee resistance; extra burden perception; production-first mindset		resistance; extra burden; mindset; old habits; behavioral inertia	<i>Employees viewed waste segregation as additional burden rather than core work.</i>	Cultural resistance is the deepest and most persistent barrier to genuine sustainability commitment.
Short-Term Production Pressure	Shipment deadlines; production targets; seasonal demand peaks; audit-gap deterioration		deadlines; production priority; short-term focus; compliance gap	<i>When shipment deadlines approach, sustainability receives reduced attention.</i>	Production pressure creates temporal inconsistency between compliance and commitment behaviors.

Figure 3: Thematic Keywords Word Cloud: Key Concepts in Sustainable Waste Management in Pakistan's Textile Industry

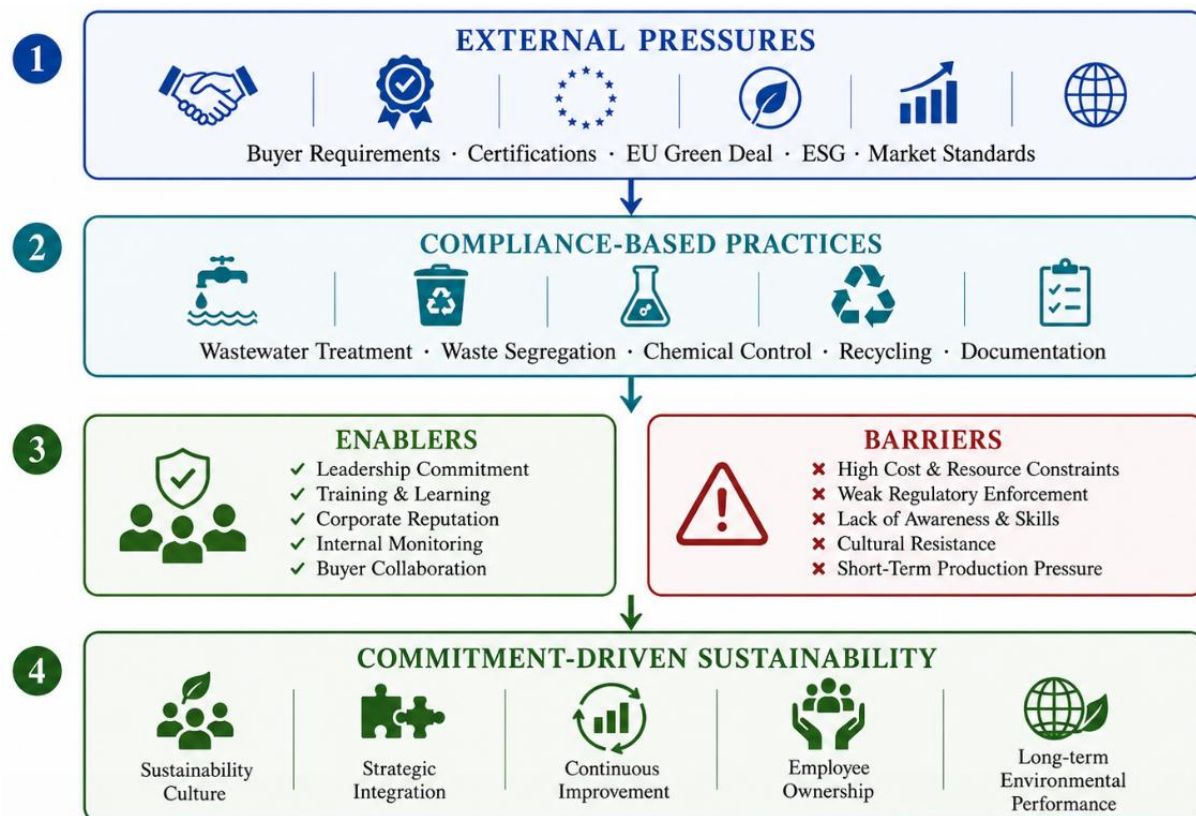


Thematic Framework: From Compliance to Commitment:

The ten themes that were established via the thematic analysis can be combined into a comprehensive thematic framework, this framework is able to visually communicate the

organizational dynamics of sustainable waste management in Pakistan's export-driven textile sector. More specifically, this framework is able to demonstrate how external institutional pressures create an environment for the initial introduction of compliance-based practices. Depending on the existing internal and external barriers and enablers of a firm, these practices may evolve into a genuine commitment to sustainability.

Figure 3. Thematic Framework: The Compliance-to-Commitment Transition in Pakistan's Export-Oriented Textile Industry



Discussion

This research provides a detailed account of organizational dynamics for sustainable waste management in Pakistan's export-focused textile industry. This chapter interprets the themes and findings of the research questions in the context of the relevant theories of institutionalism, stakeholder theory, and the growing scholarship on sustainability management.

Drivers of Sustainable Waste Management: Institutional Pressures and Coercive Compliance:

With all participants indicating that international buyers' demands are the main drivers of waste management in Pakistan, we offer empirical support for the mechanism of coercive isomorphism (Enginkaya et al., 2026). Pakistani export-led textile businesses operate at the intersections of global value chains, and international buyers hold significant institutional power

over external business contracts, audits, and the exclusion of non-compliant supply chain partners from competitive market offers (Ahmad & Khokhar, 2024). The framework of coercive pressure is consistent with previous studies of sustainability in the developing country textile industry. This includes studies by Husain et al. (2024) on the garment industry of Bangladesh and Al-Ghwayeen & Abdallah (2018), on the environmental practices of the textile sector in Pakistan.

However, the current results show that coercive buyer pressure doesn't have to serve only as a compliance trigger. Many participants noted that because of buyer pressure and coupled with the provision of buyer driven technical assistance and seller development initiatives and commitment to long-term partnerships, buyers created an environment of learning within the organization, and participants noted that this progressively reinforced sustainability. This finding is similar to Habib et al. (2020) theory where external sustainability pressures furnish the informative and relational means that promote transformational change within an organization and the development of sustainability capabilities. The compliance to commitment pathway is a learning process whereby external pressures and the sustaining partner relationship bear more significance than the degree of pressure.

Barriers to Commitment: Structural and Cultural Constraints:

The barriers identified in this study (cost, ineffective regulations, skill gaps, cultural barriers, short-term pressures) demonstrate the structural and cultural conditions that keep organizations bound to the minimal compliance despite the continuous pressures. The findings related to the barriers of finance are aligned with that of Ishaq et al. (2026b), as the minimal compliance of sustainability within the competitive export textile industry in developing countries means that sustaining the business is more important than investing in environmental management.

From a governance standpoint, the regulatory inefficiency finding is particularly important. Export-oriented firms confront more intense environmental accountability due to the pressure of international buyers, while firms serving the domestic market face little accountability because they are mostly self-contained from global scrutiny. This creates a mixed regulatory framework that leads firms to comply with regulations when it is commercially advantageous (Shah & Abbas, 2025). This is similar to the situation in Bangladesh, where Aslam (2022) found that in the garment sector, the pressures of international buyers are more instrumental in creating effective sustainability governance than the national regulation system. It indicates that the domestic regulatory system should be strengthened to create regulatory and market incentives for sustainability in other sectors and industries beyond the export-oriented sub-sector.

Cultural resistance and employee mindset were the most original of the study's findings. While most structural barriers to sustainability such as cost and regulatory inefficiency are highly documented, the sustainability literature has been relatively less interested in the barriers that lie in organizational culture. Findings from this study indicate that sustainability transformation is a cultural project because it requires different framing of environmental performance by managers and different disambiguation of sustainability by employees and the organization (Mufti & Ali, 2024).

Managerial Perceptions and Sustainability Culture:

Regarding the strongest internal determinant of sustainability progression, the research findings suggested the strongest determinant was the commitment of executives. There is a lot of consistency to be found in the literature in the field of sustainability and in particular concerning the emphasis of managerial elites on formulating corporate environmental strategies (Ali et al., n.d.). If the sustainability concern of corporate executives is framed as strategic, a source of

competitive advantage, and a value to the firm, rather than a legal compliance cost, executives can construct (or create) the frames and resource allocations, cultural and behavioral elements, and objective measurements of performance and constructive workplace authority that will facilitate significant sustainability reforms (I. S. Khan & Halme, 2025).

The contrasting sustainability cultures described by participants from leadership-committed and compliance-oriented firms illustrate how managerial framing operates as a powerful mediator between external institutional pressures and internal organizational responses. Firms in which senior leaders articulated sustainability as a core strategic priority demonstrated systematically more advanced waste management practices, more robust internal monitoring systems, more consistent employee behavioral compliance, and more positive organizational cultures around environmental responsibility. These findings extend Farrukh & Sajjad (2024) contingent resource-based view of proactive environmental strategy by providing qualitative evidence of the specific organizational mechanisms through which leadership commitment translates into sustainability capability development in an emerging economy context.

Institutional and Stakeholder Theory Integration:

The study's findings provide nuanced support for both institutional and stakeholder theoretical frameworks while also revealing their limitations as explanatory accounts of the compliance-to-commitment transition. Institutional theory's isomorphism mechanisms adequately explain the initial adoption of compliance-level sustainability practices under coercive buyer pressure, the normative influence of certification standards and professional norms on sustainability behavior, and the mimetic pressures that encourage firms to emulate the environmental practices of successful competitors. However, institutional theory is less adequate as an explanation for the observed variation in sustainability depth among firms subject to similar institutional pressures a variation that the present findings attribute primarily to differences in leadership cognition, organizational culture, and internal capability development.

Stakeholder theory is useful in this regard because it involves the varying dominance of stakeholder groups. In the findings of this study, the key role of international buyers is an example of stakeholder dominance in terms of power, legitimacy, and the urgency of demand, and is an example of stakeholders who are able to influence the provision of sustainability beyond a firm. The findings of this study show that, in the context of the Pakistani textile industry, the domestic regulatory authorities in Pakistan have a lack of the legitimacy and, as a result, the urgency of demand, and, therefore, a lack of influence in terms of sustainability.

Comparison with Developing Country Textile Sectors:

The results of this study buyer-driven compliance, leadership as the primary catalyst of commitment, financial and regulatory barriers, and the cultural challenge of institutionalizing sustainability are remarkably similar to findings of related studies on other developing country textile export sectors. In Bangladesh's garment industry, Kharal et al. (2025) noted the same buyer-driven compliance and the same short-term production pressures versus long-term investment in sustainability dilemmas. In India's textile industry, Rizvi et al. (2025) identified leadership and organizational culture as the main differentiating factors of firms that had internalized sustainability and those firms that were still at the compliance stage.

There are also relevant differentiating aspects to Pakistan's situation revealed in the cross-country studies. Particularly weak domestic regulatory enforcement, which this study has identified, is more apparent than in studies from Vietnam and China (Nosirova, 2024). This indicates that the buyer-government gap in Pakistan's textile sector is the largest, resulting in the

strongest incentives for compliance theater and the weakest incentives for actual sustainability. This context of governance has important implications for sustainable policy reform in Pakistan's textile sector and entails the need for better regulatory enforcement and other supportive policy measures, including financial, technical, and sustainability governance barriers at the sector level, to address the systemic challenges to sustainability.

Practical Contribution: A Roadmap from Compliance to Commitment:

Drawing on the integrated thematic framework, this study proposes a seven-stage roadmap for textile firms seeking to advance from compliance to commitment: (1) compliance-stage environmental practice adoption in response to buyer or regulatory requirements; (2) leadership reframing of sustainability from compliance cost to strategic investment; (3) organizational learning and capacity development through training, buyer collaboration, and knowledge exchange; (4) development of robust internal monitoring systems and environmental performance visibility; (5) cultural transformation through participatory engagement, behavioral reinforcement, and sustainability communication; (6) incremental investment in waste reduction and recycling infrastructure; and (7) long-term strategic integration of sustainability into organizational values, strategy, and performance management frameworks. This roadmap acknowledges the sequential dependencies and iterative dynamics of the compliance-to-commitment transition while providing actionable guidance for practitioners at each stage.

Conclusion

Through a qualitative thematic analysis of management perspectives, this research examined the sustainable waste management organizational dynamics of the export-oriented textile sector of Pakistan. The purpose of the research was to facilitate a better understanding of the complexities of the external institutional dynamics, the internal organizational enablers and barriers, and the managerial cognitive orientations within the context of a strategically significant emerging economy of the global South.

The research's primary contribution is understanding the role of buyer-driven compliance in Pakistan's export-led textile sector. The research highlights the importance of buyer-driven compliance in developing environmental practices within the sector, but focuses on the need to establish organizational commitment to environmental sustainability beyond compliance. It is argued that the shift from compliance to commitment encompasses a multitude of internal organizational factors, among them the commitment of organizational leadership to effect the required transformation, as external pressures cannot influence these factors. The research posits that when the organizational leaders of the sector reframe their understanding of environmental sustainability from a compliance issue to a strategic concern, the barriers to sustainable transformation of the sector are removed.

The research indicates the compliance-to-commitment transition does not move along a straight line or even in an orderly way. Rather, it is the result of an intricate web of engagement quality (e.g., technical support vs. audit pressure), the evolution of learning capabilities, the gradual accumulation of sustainable practices' reputational benefits, and the cultural shift that sustainability practices are made a part of the organization. Cost constraints and inadequate domestic regulations are significant obstacles that cannot be addressed by the organization alone, and demonstrate policy change is essential.

This study adds to the sustainability adoption literature by providing a deeper understanding of the organizational mechanisms that exist in emerging markets. From an institutional perspective, this study illustrates how, in the presence of certain organizational

conditions, compliance behaviors initiated by coercive isomorphic constructs evolve into normative commitments. From a stakeholder perspective, this study highlights the key role that buyers, regulators, and internal organizational actors play in the sustainability governance of the textile sector in developing countries. Finally, this study adds to the work of Mahajan & Majumdar (2022) by illustrating the leadership and cultural constructs that are critical to developing resource-based, proactive environmental strategies in emerging economies.

This study offers managers in textiles, specialists in sustainability, policymakers, and global consumers an evidence-supported insight into understanding and catalyzing the compliance-to-commitment transition in the textile industry in Pakistan. The thematic framework provides an aid for determining the sustainability maturity of an organization and suggests the types of interventions, such as leadership development, training, the establishment of a monitoring system, or policy changes, that are likely to enhance commitment to sustainability within that organizational context.

Implications

Managerial Implications:

This research provides a number of valuable findings for textile managers and sustainability experts. First, it is likely that the framing of environmental management as a strategic component for the creation of value, rather than the framing of environmental management as a value-destroying activity of a compliance cost, will provide greater and more lasting improvements to the sustainability of the organization than the construction of compliance infrastructure. Second, creation of the internal modular learning and training systems that provide clarity on the rationale for sustainability of the practices (as opposed to sustainability-compliance-oriented procedural training) is likely to result in greater levels of compliance from production staff and middle management that is motivated and driven rather than sustained.

Third, the construction of internal modular environmental monitoring systems, which serves to make sustainability performance both visible and routinely assessed and which is integrated into day-to-day management of the organization, is likely to create the sustained improvement to organizational accountability for sustainability that is lacking between external audit cycles. Fourth, the improvement of waste and environmental sustainability of the organization is likely to require the transformation of the organizational culture of compliance to a sustainability of management approach that actively engages the workforce in the improvement of environmental sustainability rather than passive engagement of the workforce in sustainability compliance. Finally, it is recommended that organizations actively approach their clients in the markets for technical assistance and long-term partnerships to stimulate the demand for the development of organizational sustainability beyond compliance.

Policy Implications:

From a policy perspective, the study places buyer pressure as the dominant force in encouraging environmental compliance, with a lack of domestic regulatory enforcement. It shows that the role of buyer pressure far outweighs the role of domestic regulatory enforcement. Therefore, governance reform must address the structural imbalance of environmental governance between export-driven and domestic firms. A detailed focus on regulatory enforcement of environmental governance in the domestic textile industry, combined with the establishment of credible sanctions for non-compliance, as well as the introduction of mandatory environmental reporting for all firms, would balance the competitive landscape with the firm-driven sustainability focus.

Policy should focus on a balance of regulatory and non-regulatory governance. This would include all of the aforementioned sanctions, along with positive regulatory governance. This would include tax breaks for environmental investments, subsidized construction and upgrades of effluent treatment plants, subsidized sustainability training for small and medium-sized firms, and subsidized sustainability. Positive regulatory governance postures in place should incentivize sustainability-focused behavior. These include sustainable procurement policies, expedited export clearances, and subsidies for sustainability certifications. All of these would create sustainability-focused behavior, as a result of integrating positive and negative policies.

Implications for International Buyers:

International buyers play an important role in setting the sustainability governance standards in their supply chains and should appreciate that while audit-based compliance is an important element, it is an inadequate mechanism for developing a genuine sustainability focus among suppliers. Buyer approaches that align compliance requirements with the provision of technical support, the building of long-term partnerships, and the establishment of fair prices to allow for sustainability-related investments are more likely to create the conditions within suppliers for the genuine sustainability-related transform. Buyers should also acknowledge the relationship between short-term price concerns and long-term sustainability, so that their procurement policies do not impact suppliers' ability to make significant sustainability-related investments.

Limitations and Future Research

There are important and acknowledged limitations of this study. The geographic focus is on Punjab and Sindh provinces of Pakistan and while these areas capture the largest concentration of export-oriented textile production, they may not represent the full range of sustainability practices and contexts in the entire supply chain of the Pakistani textile sector. The focus on export-oriented firms also limits the findings to these firms and may not represent practitioners in other textile or manufacturing-related sectors.

This qualitative study captures participants' perceptions, not statistically representative opinions of the broader Pakistani textile factory population. As cross-sectional design focuses on current perceptions, it is unable to address the evolving nature of a firm's sustainability orientation. This is a relevant constraint given the long-term nature of the compliance-to-commitment transition. Regarding the participants' perceptions of sustainability practices, social desirability bias was present in participants' perceptions, even after creating trust and anonymity throughout the interviews.

To improve upon the ideas and perceptions presented, future research needs to be qualitative and quantitative in nature. The sustainability practices research in the Pakistani textile industry would benefit from qualitative research of this nature. The international research would be of even greater value and focus on the compliance-to-commitment transition of Pakistan, Bangladesh, India, Vietnam, and China. Sustainability practices research in this area would greatly benefit from a longitudinal research focus on the compliance-to-commitment transition of the participating firms. This research would also greatly benefit from a focus on digital technologies, especially the transparency provided by blockchain in supply chains, AI in the monitoring of environmental issues, and circular economy platforms.

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