Antecedents of Social Sustainability Noncompliance in the Indian Apparel Sector

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Abstract

Consumers expect global apparel suppliers to adhere to strict social sustainability standards following several deadly noncompliance incidents. This study provides a unique contribution to social sustainability governance by utilizing a causal-effect analysis to classify noncompliance antecedents into causal and effect groups and analyze the interactions. Combining a structured Delphi technique, involving thirty senior manufacturing professionals in the Indian apparel sector, with a fuzzy Decision-Making Trial and Evaluation Laboratory method (DEMATEL) revealed specific antecedents related to the adherence to social sustainability standards. The most influential antecedents identified were manufacturing cluster behavior, stringent regulations, multiple standards, business continuity, and buyer preference. Notably, the study theorizes that a supplier's compliance deliberations intertwine with operational considerations around business volumes, costs, inappropriate governance, and regional cultural norms. Stakeholder theory and the theory of reasoned action help explain the institutional logics underlying the interactions between antecedents and highlight the crucial need for local production hubs to adopt universal social compliance codes. To our knowledge, this research is the first to identify manufacturing cluster behavior as a leading

cause of noncompliance, highlighting the need to recognize clusters as essential stakeholders. The study has notable implications for brands, suppliers, governments, manufacturing councils, and non-governmental organizations (NGOs) that call for coordinated action and new forms of governance to minimize the incidences of noncompliance by apparel suppliers.

Keywords: *Supplier code of conduct, Social sustainability, Apparel industry, Compliance, Global value chain*

1. Introduction

Ethical issues in apparel supply chains complicate the pressing need to integrate sustainability considerations with operations (Freise & Seuring, 2015; Huq & Stevenson, 2020). This integration often presents as a strategic process guided by a supplier code of conduct (SCC). However, the decision to adopt an SCC frequently intertwines with considerations of transparency (Lee & Rammohan, 2017), regional cultural norms (Giuliani, 2016), and corporate governance (Rahim, 2017) as well as operational elements (Soundararajan & Brown, 2016). As a result, the process often falls short of expectations when profit maximization considerations win over compliance (Rahim, 2017). For example, the deadly garment-factory fires in Karachi and Dhaka in 2012, the *Rana Plaza* building collapse in 2013, and evidence of child labor exploitation in Uzbekistan have all heightened concerns of poor working conditions and weak supply networks monitoring (Yardley, 2012; Locke et al., 2013; Brettman, 2014; Rahim, 2017). The resulting accusations by outraged publics inevitably concern the ethical behaviors of overseas buyers, factory owners, governments, law enforcement agencies, and others., and there is further interest when the suppliers are in developing nations, where SCC procedures and systems can differ considerably from elsewhere (Mani et al., 2016; Roy et al., 2019; Huq & Stevenson, 2020).

Perhaps unsurprisingly, SCC implementation has become a focus of researcher attention (Hoejmose & Adrien-Kirby, 2012; Lee & Tang, 2017), and while the literature debates various possible reasons for noncompliance, the specific underlying causes remain unresolved. Thus, scope exists for in-depth scrutiny of why supplier firms choose to deviate from the SCC standards (Huq & Stevenson, 2020). In particular, there is a knowledge gap concerning the antecedents of SCC noncompliance as causal-effect groups and the institutional logics (Tracey et al., 2011; Pache & Santos, 2013). This study aims to advance understanding of SCC noncompliance behavior by scrutinizing apparel supplier conduct in the context of the Indian textile and apparel manufacturing industry, which with a value of USD 82 billion (IBEF, 2020), is the world's second-largest. The industry is one of the most challenging production networks for SCC compliance because it is highly

fragmented, and outsourcing is common. This study poses two related questions to understand how to reduce incidents of SCC noncompliance:

1) What are the critical antecedents of SCC noncompliance by the apparel suppliers?
2) How do the critical antecedents of SCC noncompliance interact?

Addressing these questions involved a mixed-methods research approach. The study utilizes a structured Delphi technique involving thirty senior apparel manufacturing professionals to identify a shortlist of antecedent candidates. Application of a fuzzy *Decision-Making Trial and Evaluation Laboratory* (DEMATEL) method identified and ranked the causal and effect factors. The lens of stakeholder theory (Freeman, 1984) then offered a means to understand the stakeholders' role in compliance dynamics. Similarly, the theory of reasoned action (Ajzen & Fishbein, 1980) illustrated the perspective of SCC decision-making through the lens of attitudinal and subjective norms. The research findings indicate that the four most influential causal antecedents of noncompliance are manufacturing cluster behavior, stringent regulations, multiple SCC standards, and buyer preference. Notably, these factors differ from the earlier Delphi study findings. The interaction analysis also highlights that order volume and supplier cost pressure affect SCC implementation and monitoring. A supplier firm's need to maintain multiple SCC standards also leads to difficulties with SCC implementation and tracking.

By examining noncompliance phenomena via systematic analysis of the antecedents and their interactions in a specific industry and regional setting, this study offers several contributions to the supply chain literature concerning SCC implementation. Firstly, and distinct from earlier qualitative studies of SCC adoption in emerging markets, a scientific fuzzy DEMATEL technique revealed the causal and effect antecedents of SCC noncompliance and their interactions. Secondly, and to the best of our knowledge, this is the first study to identify manufacturing cluster behavior as a crucial cause of SCC noncompliance, thereby establishing the need to recognize manufacturing clusters as an essential stakeholder in their own right. Thirdly, it theorizes that supplier compliance deliberations intertwine with operational considerations around business volumes, costs, inappropriate governance, and regional cultural norms, thereby adding a new perspective to the institutional and behavioral logics of how the antecedent interactions result in SCC noncompliance. Finally, having identified that the myriad of standards, manufacturing cluster practices, and business continuity have essential parts to play in assuring compliance, this study has specific recommendations for coordinated actions that recognize the need for local production hubs to adopt universal codes.

The remainder of the paper is organized as follows. The literature review in Section 2 is followed by a description of the research methodology in Section 3. Section 4 contains the data analysis, and the findings are discussed in Section 5. Section 6 describes the theoretical and managerial implications. The conclusion in Section 7 includes the study limitations and research opportunities.

2. Background Literature

2.1 Supplier Codes of Conduct

The major brands and retailers that govern widely dispersed supplier entities are, in the eyes of the consumer, increasingly accountable for the social and ethical issues that arise in production (Seidman, 2007; Lund-Thomsen & Lindgreen, 2014). One effective way to help assure an organization's ethical behavior is by implementing a supplier code of conduct, as SCCs protect workers from exploitation, improve occupational health and safety, set minimum wage levels, and encourage training and freedom of association (e.g., Mamic, 2005; Egels-Zandén & Merk, 2014). Socially compliant suppliers either conform to SCC standards established by their buyers/retailers or subscribe to voluntary codes in a self-regulatory approach (Arya & Salk, 2006; Mann et al., 2014; Jayasinghe, 2016). Even though governments do not directly regulate the norms, they are considered essential for countering overt commercial pressure (Pedersen & Anderson, 2006; Gimenez & Tachizawa, 2012).

A supplier may need to comply with a broad range of SCCs simultaneously (Kolk & Van Tulder, 2005; Rahim, 2017) and cope with many institutional and political pressures designed to encourage compliance (Rahim, 2017). While SCCs appear to coerce supplier firms to be socially accountable to many different stakeholders (Campbell, 2007; Sodhi, 2015), they also provide an opportunity for economic upgrading via increased market share (Klassen & Vereecke, 2012). Cost pressure, contract duration, and production complexity act as antecedents to the supplier code of conduct in global supply chains and link to relational governance (Jiang, 2009a,b). Contracts that strictly enforce SCC standards and norms can also shape supply chain practices into strategic elements of a world-class sustainability framework (Blome & Paulraj, 2013; Chen & Slotnick, 2015). Thus, initiatives may range from basic statements of intent to closely monitored and tightly structured measurement frameworks (Sethi, 2002; Sethi & Emerlianova, 2006).

SCCs are widely considered a significant component of supply chain risk mitigation (Sethi, 2002). They tend to firmly reflect the buying firm's objectives, leading to standards and interests that conflict (Egels-Zandén & Merk, 2014). The buyer-driven ecosystem unfairly distributes compliance responsibility; supplier firms cannot influence contractual terms and are vulnerable to unrealistic

expectations (Pedersen, 2009). Moreover, when SCCs are adapted from publicly-available third-party standards to reduce customization and risk (Zakaria et al., 2012), they can be insufficiently inclusive or extensive (Yawar & Seuring, 2017).

Rather than achieving a meaningful improvement in working conditions, the primary motivation for compliance by some suppliers is to demonstrate SCC adoption (Egels-Zandén, 2014). Consequently, even when a supplier is intrinsically motivated to enhance its reputation (Van Tulder et al., 2009), it may exhibit noncompliance behaviors that flout local regulations (Rahim, 2017). Suppliers also tend to lack comprehensive implementation strategies (Andersen & Skjoett-Larsen, 2009), due in part to the inherent complications of outsourcing practices that are a common feature of garment manufacturing (Boyd et al., 2007). The next sub-section reviews the antecedents of noncompliance in the apparel industry.

2.2 Antecedents of Apparel Supplier Social Sustainability Noncompliance

Following numerous allegations of poor and hazardous working conditions (Hearson, 2009), today's garment industries have a surfeit of SCCs intended to achieve product and workplace transparency and accountability (Awaysheh & Klassen, 2010). Buyer-dictated apparel manufacturing agreements can take many forms, including company codes, multi-stakeholder initiatives (MSIs), inter-governmental agreements, and frameworks (Mamic, 2005; Mena & Palazzo, 2012). MSIs are widespread and involve non-profit organizations such as industry associations, non-governmental organizations (NGOs), and worker unions, which can all play a decisive role in pressuring supplier firms to adopt agreed SCC standards (Mamic, 2005). Better-known MSIs are the *Clean Clothes Campaign (CCC); Ethical Trading Initiative (ETI); Fair Labor Association (FLA); Global Compact (GC); Supplier Ethical Data Exchange (SEDEX); Worldwide Responsible Accredited Production (WRAP);* and the *Worker Rights Consortium (WRC).*

Global brands like Walmart, Nike, and Levi Strauss have established liaison offices in developing nations to manage their supplier relationships locally, although they may also appoint third-party agencies to assure production-network compliance (Kolk & Van Tulder, 2005; Ruwanpura & Wrigley, 2011; Perry et al., 2015). However, it appears this has had little impact on supplier social responsibility (Barrientos & Smith, 2007; Locke et al., 2007; Kim, 2013), with several brands linked to non-compliance incidents (Perry et al., 2015). For example, *GAP*, *Nike*, and *Adidas* were all held to account for exploiting cheap labor (Amaeshi et al., 2008), while *Aldi, Carrefour, Lidl, Tesco*, and *Wal*mart faced many allegations of poor working conditions and standards violations (Hearson, 2009). Western buyers' profit-oriented commercialization agenda also restricts SCC adoption, with sourcing policies that favor low cost, high quality, and just in time delivery over ethical labor practices

(Yu, 2008). This situation was certainly evident in Reebok's supply chain, criticized for its SCC noncompliance (Yu, 2008).

To summarise, there are many candidate antecedents of apparel supplier social sustainability noncompliance. The compliance process is complex and involves internal and external institutional actors that can influence the outcome. For instance, supplier transaction characteristics, including cost structure, production complexity, and contract duration, associate with the supplier's commitment to a code of conduct (Lim & Phillips, 2008; Jiang, 2009a). A decoupling phenomenon can occur when the organization only adopts SCC practices symbolically (Rogers et al., 2007), and researchers have examined private regulation's role to help explain the decoupling and recoupling effects on supply chains (Egels-Zanden, 2014).

Economic reasons, such as small profit margins and high compliance costs, are frequently used to excuse SCC noncompliance (Quan, 2008; Gereffi & Lee, 2016). For example, suppliers feeling pressured to shorten lead-times (Masson et al., 2007) may focus on the economic imperatives while seemingly upholding fundamental human rights and workplace conditions (Rahim, 2017). Conversely, extended contract durations are linked to a positive commitment to SCCs, especially when the long-term buyer-supplier relationship creates trust, which reduces decoupling and supplier opportunistic behavior (Jiang, 2009a). Caniato et al. (2012) examined internal efficiency and market drivers, customer requirements, context, and SCC compliance regulations. More recently, Mani and Gunasekaran (2018) emphasized that customer pressure, sustainability culture, regulatory compliance, and external stakeholders act as primary constituents to SCCs in global supply chains.

Some suppliers symbolically adopt SCCs to be certified as a legitimized business (Huq & Stevenson, 2018) and resort to fraudulent means to counter the SCC implementation and monitoring requirements (SLD, 2013; Parwez, 2014). Outsourced production networks may use an exclusive code of conduct (Perry et al., 2015) or may opt for a voluntary code, more to boost their marketplace attractiveness (Jayasinghe, 2016) than to improve supply chain visibility (Rahim, 2017). Also, vertical disintegration in apparel-related industries can trigger opportunistic subcontracting arrangements (Kabeer, 2004; Hale & Wills, 2007) and result in untraceable supply networks (Ruwanpura & Wrigley, 2011). Thus, unpaid work, low wages, very long work hours, and noncompliance with local labor laws are common problems within the garment industry (ILO, 2016), as is the lack of paid maternity and sick leave, no insurance or gratuities, inadequate crèche facilities, and illegal wage deductions (Mezzadri, 2012; Venkatesan, 2019). Some apparel suppliers even mock ethical procedures (Huq et al., 2014).

Moreover, such issues as intense business pressure, production complexity, and inconsistent standards conspire to produce differing noncompliance behaviors across regional contexts (Mezzadri, 2014). Although full global integration requires it, accounting for the wide variety of local market strategies and individual SCC norms and governances is extremely difficult (Mezzadri, 2014). Thus, it is vital to understand the precise reasons for SCC noncompliance in a specific regional context. Case studies have indicated the impact of resources, core vision, drivers, clear policy and managerial perceptions on SCC compliance (Hoang & Jones, 2012; Coppa & Sriramesh, 2013), but there is still a minimal understanding of sustainability dynamics in upstream and downstream supply chain operations (Carter & Liane Easton, 2011; Wilhelm et al., 2016). Since these issues may vary regionally, the following sub-section discusses factors specific to firms operating in emerging economies.

2.3 Significance of social issues in emerging economies

Many large corporations in the western world have developed supplier codes of conduct for their overseas suppliers. Essentially, these are statements of principles and policy that serve as expressions of commitment to enterprise conduct (Yu, 2008). Because these suppliers are located mostly in emerging economies for the low-cost advantages, SCCs are significant in countries like Bangladesh, India, Brazil, and China (Mani et al., 2018; Huq & Stevenson, 2020). Of the codes identified, the majority are in labor-intensive industries, which include textiles, footwear, and clothing.

As social issues are time-dependent, contextual and dynamic, and vary between developing and developed nations (Mani & Gunasekaran, 2018), SCC compliance in emerging economies is of great interest to scholars (Baskaran et al., 2012; Jayaram et al., 2014; Katiyar et al., 2018). The problems intensify further in a developing country like India, where employees are often mobile migrants or home-based. The urban/rural divide also allows employers to profit from socio-economic divisions and wage differentials (De Neve, 2009; Alamgir & Banerjee, 2018). Moreover, Locke et al. (2007) attribute poor SCC implementations in developing countries to a combination of ineffective host country regulations and variable standards in a challenging institutional context. For example, non-compliance behavior intensifies when weak State and infrastructure support encourages corrupt inspection practices (Mitchell et al., 2014) and ineffective monitoring (Hoang & Jones, 2012). Conversely, stakeholder pressure can be significant for generating proactive pathways to SCC compliance in apparel supply chains and result in performance benefits (Roy et al., 2020).

According to Silvestre (2015), SCCs in emerging economy settings involve journeys rather than destinations, implying that sustainable supply chains learn and evolve with their constituent organizations. However, in developing economies, supply chains can face extra barriers that

contribute to higher uncertainty and complexity levels due to the prevalent turbulent business environments and institutional voids. For example, Silvestre (2015) highlights that natural resource-based supply chains in developing economies are geographically bounded and susceptible to local social demands. As an emerging economy, India has a proud history of textile and apparel manufacturing, although only since the 1980s did consolidation result in a global apparel sourcing hub (Mezzadri, 2014). India's apparel industry is a leading contributor to the global textile and apparel markets, with around eight million employees, contributing some thirteen percent of total exports (FWF, 2016). Distinct manufacturing clusters produce specific product categories (NCEUS, 2009; FWF, 2016) and tend to have a local industry agenda. Consequently, incorporation into global supply chains involves many diverse interests (Mezzadri, 2014). A high degree of sub-contracting poses substantial extra challenges (De Neve, 2014).

The apparel-manufacturing sector in India presents a three-layered pyramidal structure, in which the topmost and middle layers contain the large suppliers and small/medium enterprises, respectively. The lowest layer is a composite network of sub-suppliers that perform ancillary activities like embroidering, washing, and printing. These are often home-based workers, artisans, piece-rate workers, and informal workers (Venkatesan, 2019). In contrast with most Western nations, and despite government efforts to increase professionalism via sector-specific initiatives, the capabilities of India's working classes continue to limit industrial growth (RoyChowdhury, 2015), and the non-factory realm remains mostly untouched by standards (Bhaskaran et al., 2010; Mezzadri, 2012; De Neve, 2014). Consequently, there is a pressing need for in-depth social sustainability research in the Indian apparel industry on topics ranging from SCC implementation complexity, back-shoring, social compliance dimensions, and the content of specific standards (De Neve, 2009; Stigzelius & Mark-Herbert, 2009; Mezzadri, 2014). Annexure A summarises the key antecedent themes identified in the literature.

2.4 Theoretical background

This research draws on the perspectives of *stakeholder theory* and the *theory of reasoned action* to deliberate the antecedents of SCC noncompliance. The stakeholder theory's explanatory power makes it suitable for analyzing the *reasons* for non-compliance in the context of actors and their respective interests. The theory highlights the responsibility of satisfying a variety of stakeholders in addition to the owners or shareholders of a company (Freeman, 1984; Meinders & Meuffels, 2001). Normative, instrumental, and descriptive forms of the theory explain social sustainability, particularly concerning supply chains. For example, Mani & Gunasekaran (2018) examined the role within emerging economies of internal and external stakeholder influence on supply chain social sustainability

compliance and the benefits. The normative form prescribes that 'if you want to achieve x, you need to do y' and emphasizes how stakeholders are instrumental in holding firms responsible for their actions. Stakeholders creating SCC standards may include buyers, NGOs, and the State, and those who benefit from those standards include suppliers and their employees. In short, stakeholders can pave the way for proactive pathways to SCC compliance in apparel supply chains to achieve performance benefits (Roy et al., 2020).

The SCC noncompliance phenomenon also encompasses managing multiple stakeholders, and these influencers link to SCC adoption (Bendell, 2005; Zorzini et al., 2015). Corporate fixation on profit maximization can create non-compliance behaviors evidenced by low labor standards and undue risk of reputational loss for the corporates themselves (Yu, 2008; Rahim, 2017). Similarly, when a supplier symbolically adopts an SCC to achieve legitimacy and conformity with stakeholders, and compliance does not become established in daily routines, decoupling is bound to occur, creating risks for global supply chains (Rogers et al., 2007; Huq & Stevenson, 2020). Conversely, while private SCC regulations may be associated with decoupling initially, the subsequent organizational learning may eventually produce recoupling and result in SCC compliance (Egels-Zanden, 2014). Stakeholder theory offers normative explanations of why, and in what ways, firms should consider stakeholder claims in SCC implementation (Donaldson & Preston, 1995; Gilbert & Rasche, 2008).

Reasoned action theory's explanatory power makes it suitable for interpreting the *interactions* between antecedent factors; explaining non-compliance behavior by focusing on the intra-organizational factors (Fishbein & Ajzen, 1975). Two primary determinants are the attitude toward performing the behavior, evaluating the consequences, and perception toward the social or normative pressures exerted to perform that behavior (Fishbein & Ajzen, 1975; Schwenk & Möser, 2009; Lin et al., 2018). This paper concurs with Marshall et al. (2015b) by arguing that attitude drives social sustainability behavior because of how the attitude to learning influences: organizational learning, leadership commitment, and employee involvement in the improvement process (Peng et al., 2008; Ni & Sun, 2009). While senior management may be responsible for the initial SCC adoption decision, implementation within the global supply chains is influenced strongly by many other players' behaviors, including compliance managers, account managers, merchandisers, and consultants.

Overall, disparity frequently exists between social responsibility objectives and practice outcomes despite SCC standards being well established in global supply chains. Moreover, compliance barriers vary by industry, region, and type of interaction (Turcotte et al., 2014; Yawar & Seuring, 2015), hence more regional and institution-specific studies are needed (Gugler & Shi, 2009; Mani et al., 2016, 2018). There is also scope for in-depth investigation of why emerging economy supplier firms deviate from agreed SCC standards (Huq & Stevenson, 2020). Although qualitative studies discuss this decoupling

action in specific case investigations (De Neve, 2009; Mezzadri, 2014, 2017), the literature still lacks grounded discussion that recognizes the causal and effect antecedents and their interactions. Equally, it is vital to analyze the antecedents with such institutional logics as values, attitudes, practices, and rules (Thornton & Ocasio, 1999).

3. Methodology

This study utilizes qualitative and quantitative methods using an approach advocated for investigating business-related issues (e.g., Gölcük & Baykasoğlu, 2016; Govindan & Chaudhuri, 2016; Shao et al., 2016). The research process involves two major phases, as illustrated in Figure 1. In Phase 1, a structured Delphi technique confirms the candidate factors in the literature that give rise to SCC noncompliance by Indian apparel suppliers. In Phase 2, a quantitative fuzzy DEMATEL technique identifies and ranks the most influential factors and explores their inter-relationships. Threshold analysis identifies the most prominent ones.

Phase 1 - Delphi Analysis Procedure

The Delphi method is used widely in strategic decision-making to develop a group consensus on the relative importance of study factors (Holsapple & Joshi, 2002; Okoli & Pawlowski, 2004; Grisham, 2009). Delphi helps define the characteristics of lesser-known and complex phenomena when epistemological queries are growing, and theory development aims to understand organizational behavior within the bounds of a factor-based framework (Delbecq et al., 1975; Adler & Ziglio, 1996; Day & Bobeva, 2005).

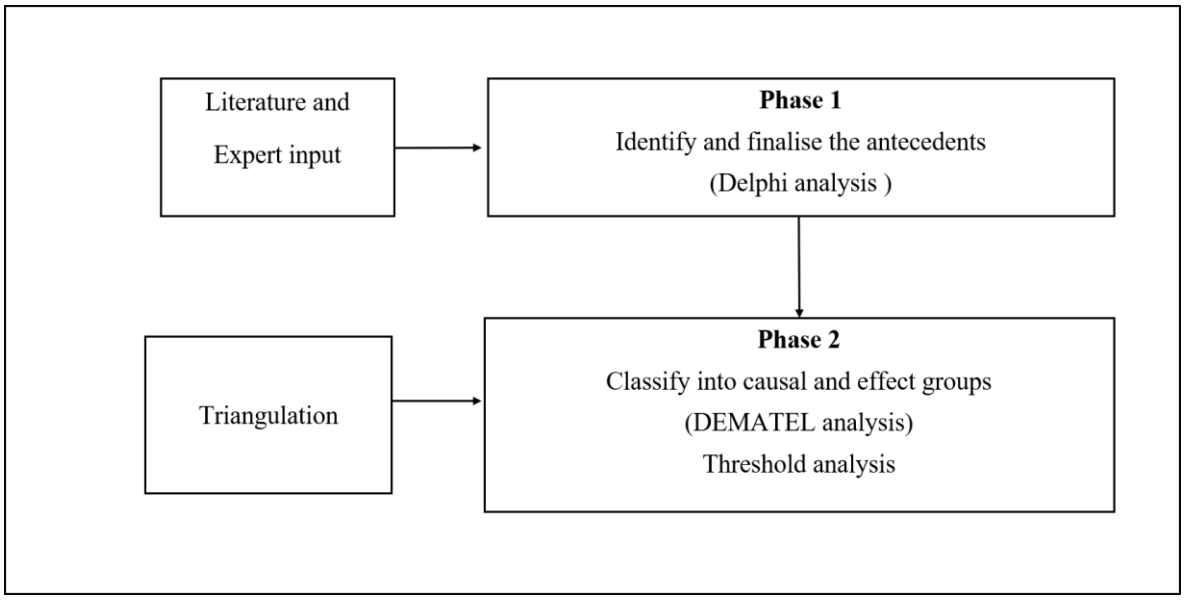


Figure 1 Research Process

A Delphi study requires a panel of experts to respond independently to a questionnaire administered over two or more rounds. At the end of each round, a facilitator summarises the responses for the whole panel. Participants can then choose whether to revise their answers after considering the opinions of the other panel members. Geographical boundaries do not limit the procedure (Day & Bobeva, 2005), and it is free of the peer pressures encountered in focus group settings where everyone is present and where there may be dominant personalities (Flynn et al., 1990; Okoli & Pawlowski, 2004).

Phase 2 - Fuzzy DEMATEL and Threshold analysis

The DEMATEL technique (Gabus & Fontela, 1972) supports multi-criteria decision-making by creating and analyzing structural models that involve causal relationships between system components. Its popularity in managerial and sustainability research is increasing (Seleem et al., 2016; Shao et al., 2016; Bai et al., 2017). DEMATEL requires a fuzzy set extension to manage vagueness, bias, and human judgment uncertainty (Wu & Lee, 2007; Wu, 2012; Lin, 2013). People also prefer to articulate their judgments using linguistic variables, and fuzzy set theory can allow for this linguistic preference (Zadeh, 1965; Wu & Lee, 2007; Kumar et al., 2013). Assessments submitted by the expert panel were assumed to be affected by partiality due to unquantifiable or incomplete information or partial ignorance (Chen & Hwang, 1992). Consequently, a triangular fuzzy number (TFN) represents the relative weight (M) of each antecedent expressed as a linguistic variable as a real triplet (l, m, and u) (Figure 2); thereby specifying the smallest, the most likely, and largest-possible value, respectively (Padma & Balasubramanie, 2011).

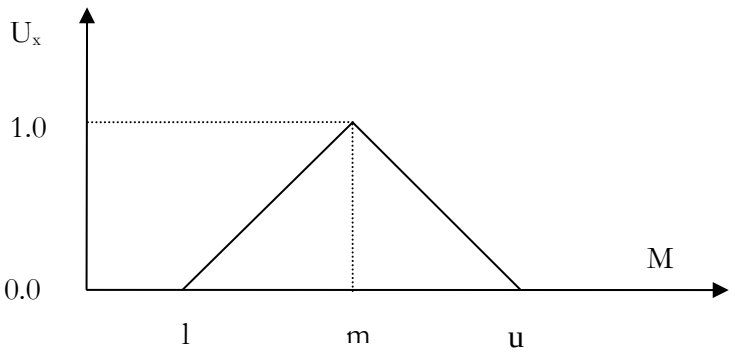


Figure 2 Triangular fuzzy number

The procedure helps to manage the ambiguity that impacts decision-maker judgment. Finally, setting a threshold or cut-off value (ϕ) below which the indicated relations are deemed insignificant establishes the prominent relationships. For this study, obtaining the threshold (ϕ) involved adding two standard deviations to the total relation matrix mean value (Fu et al., 2012; Zhu et al., 2014). Any value exceeding ϕ in the T matrix is indicative of an influential relationship. Annexure B contains the steps taken to examine and classify the antecedents (Venkatesh et al., 2017).

Selection of expert evaluators

The Indian apparel industry is the context for this study. As with any socially constructed entity, an Indian supplier firm's external and internal interactions emerge collectively as the summation of every individual's cognitive attitudes, task characteristics, and leadership behaviors (Emery & Trist, 1965; Walsh, 1995; Bolino et al., 2002; Akgün et al., 2003). However, this study's unit of analysis is the individual practitioner having an influential role in SCC strategy and implementation. Consequently, the individual's perception of the SCC noncompliance antecedents is being studied rather than the overall supplier firm's perception.

Due to the needed expertise, specificity, and study focus, a non-probabilistic purposive sampling strategy selected the expert panel to provide insights on noncompliance behaviors (Day & Bobeva, 2005; Eisenhardt & Graebner, 2007). Personal contact and industry referral helped select potential participants that were likely to be accessible and offer candid insights. Of the 38 participants approached, 30 eventually agreed to participate. At the time of the study, every panel member was an employee of a first-tier, full-package export apparel supplier and coordinator of the entire production process, including raw materials procurement. Organization size varied between 570-10,000 employees (Annexure C), with customers that span the range of small importers/buyers to large retailers. Every panel member was very knowledgeable, having 18.6 years of employment experience on average (range 10-28 years).

Moreover, they all have a direct or indirect role in strategic and tactical SCC decision-making by responding to stakeholder pressure with administrative action (Hemingway & Maclagan, 2004; Kaplan, 2008). The panel comprised business owners, CEOs, COOs, Vice Presidents, Key Account Managers/Merchandising Managers, General Managers/Factory Heads, Operations and Quality Executives, Compliance Managers (cum Auditors), and Factory Compliance Consultants. In short, the panel reflected the views and influences of senior and middle managers and consultants.

Questions about noncompliance behaviors in the Indian apparel manufacturing context were developed (Annexure D) and administered to the expert panel via two rounds of interviews conducted in person or via phone. An abduction reasoning methodology analyzed the panel

responses systematically to yield the main antecedents (Coffey & Atkinson, 1996; Richardson & Kramer, 2006). Figure 3 summarises the abductive reasoning methodology that aims to reduce induction and deduction procedural limitations. Instead of generating hypotheses or using a grounded theory approach alone, it analyses the noncompliance phenomenon via a process that involves the matching of theory against participant feedback.

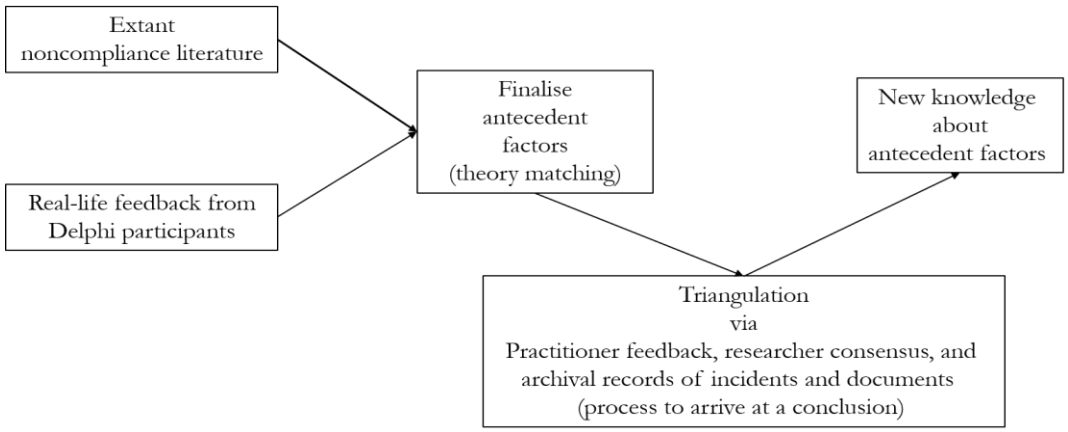


Figure 3 Abductive Methodology

This procedure provides a generalizable and logical conclusion about the antecedents (Andreewsky & Bourcier,2000; Kovács & Spens, 2005). Selective coding and thematic analysis plus a constant comparison approach are useful for finalizing the fifteen-factor list following Phase 1 (Strauss & Corbin, 1990). An investigator triangulation step in which researcher cross-analysis helps reach a consensus about the antecedents complements the investigation (Ketchen et al., 2014). A data triangulation step considers different sources, including the literature, archival records, and participant feedback. These steps help preserve the richness of the antecedents' contextual information (Eisenhardt, 1998).

Panel members then made pairwise comparisons based on their industry knowledge and experience by considering each antecedent's direct influence on every other antecedent. Next, phone calls, video conferences, and field visits to six factories over three months helped to triangulate the reports with what was happening on the ground (Gummesson, 2007). Access to confidential documents, including employee information, compliance manuals, wages information, audit reports, certifications, and legal documentation, all aided understanding of the compliance phenomenon. In a final validation step, industry stakeholders that were not on the expert panel discussed the findings and insights, including NGO representatives, apparel-industry association officers, and third-party audit service providers.

4. Findings

Phase 1 – Antecedents Obtained from Delphi analysis

The Delphi analysis shortlisted fifteen main factors for further analysis that exhibited >70 percent convergence (high preference), Table 1. These finalized factors are described below, aided by participant inputs and literature support (Baxter & Eyles, 1997).

Table 1 Antecedents of SCC noncompliance

	Antecedent name	Convergence (%)	Rank
AF1	Leadership Commitment	100	1*
AF2	Employee Commitment	100	1*
AF3	Cost Pressure	96.7	2
AF4	Multiple Standards	93.3	3*
AF5	Business Continuity	93.3	3*
AF6	Stakeholder Behaviour	93.3	3*
AF7	Lack of Training	90	4
AF8	Stringent Regulations	86.7	5*
AF9	Attrition Rate	86.7	5*
AF10	Manufacturing Cluster Behaviour	83.3	6
AF11	Product Nature	80	7*
AF12	Opportunistic Behaviour	80	7*
AF13	Buyer Preference	80	7
AF14	Compliance Implementation/Monitoring	76.7	8
AF15	Penalties and Incentives	73.3	9

*Joint rank

Leadership Commitment (AF1): The ethical values held by top management impact organizational practice significantly (Groves & LaRocca, 2011), making leadership commitment a prime antecedent of SCC compliance programs that align with the firm's mission (Pedersen, 2009; Yu & Tseng, 2014). Participants expressed how, due to other business pressures, top management's lack of interest in compliance-related issues sends signals to employees that discourage compliance behaviors.

Employee Commitment (AF2): Employees are significant stakeholders with legitimacy for enacting an SCC compliance program (Nielsen et al., 2009). Moreover, Fritz et al. (1999) observe that discussions with peers about SCC standards influence ethical behavior. Although companies may employ strategies to engage their staff with the compliance process, employee attitude still plays a considerable part (Lee et al., 2013). The participants reported how employees who lack confidence

in company performance or do not understand the value and vital role of an SCC in the business's sustainability exhibit low commitment levels, which pose an obstacle to compliance.

Cost Pressure (AF3): The global fashion production networks are under intense pressure to meet customer/retailer buyer cost targets (Jayasinghe, 2016). Suppliers in emerging economies are often required to adhere to the SCC of a specific brand or MSI, which means existing accreditations or certifications that are current are not recognized (Hearson, 2009). This coercive behavior indirectly drives downward pricing by small and medium enterprises due to their lack of capital and expertise (Lepoutre & Heene, 2006; Ciliberti al., 2009). According to one Vice-President (SP3), *"With some [SCC] standards, it is mandatory to have follow-up audits at regular intervals and update the factory standards. This requires additional costs and investments, which may not be taken seriously by the manufacturer due to the poor rate of return, so leads to non-compliance".* Instead, management focus shifts to achieving price objectives (Arnold & Hartman, 2005), detracting from worker benefits and responsible practices (Amaeshi et al., 2008; Jiang, 2009a).

Multiple Standards (AF4): Participants stated that the proliferation and variety of norms and audit formats is a significant factor leading to confusion and conflict around SCC compliance (Gugler & Shi, 2009; Lund-Thomsen & Lindgreen, 2014). Focal brands and customers keen to develop proprietary standards may engage in local adaptations (O'Dwyer & Madden, 2006), which increases the number of SCCs and creates new challenges for suppliers (Sum & Ngai, 2005). Suppliers may also need to cater to customers with specific business requirements (Welford & Frost, 2006), which places them in a conflicting position between different practice codes (Locke et al., 2013). These challenges can lead to SCC noncompliance despite a supplier's best efforts.

Business Continuity(AF5): Organizations face quantity/quality trade-offs in their social sustainability decision-making (Crifo et al., 2016) and tend to be highly sensitive to the nuances of SCC norms when future business volumes are perceived to be at risk. Conversely, customers faced with smaller order sizes and demandingly high standards may upset relational supply chain norms and trigger noncompliance.

Stakeholder Behavior (AF6): Intrusive or inconsistent performance monitoring can adversely affect SCC compliance, a long-term collaborative effort by suppliers and customers (Boyd et al., 2007). Participants stated that blatant bullying by buyers, agents, monitoring NGOs, and even governmental authorities might also force manufacturers to step aside from their SCC commitments. One factory head (GM7) observed, *"On occasion, we hear demotivating and even unlawful words from buyer representatives, which force us not to take their instructions seriously."*

Lack of Training (AF7): The participants judge that lack of interest in employee training is a potential antecedent for SCC noncompliance. Despite agreeing with the vital role of training

programs offered by NGOs, governmental organizations, and local industry associations to strengthen the capacity for effective SCC compliance (e.g., Lund-Thomsen & Nadvi, 2010), the apparel industry lacks SCC dispute resolution training for managers and. Supplier firms can also make substantial cost savings by ignoring SCC training. Hence high staff attrition rates and poor attitudes lead to hesitancy around offering training to employees.

Stringent Regulations(AF8): There is a broad perception that buyers will impose stringent SCC compliance standards on garment suppliers (Zakaria et al., 2012) even when the regulations are impractical and inappropriate. In addition to the relentless pressure, Jiang (2009b) attributes lapses by suppliers to overly high buyer expectations when a myriad of associated tasks includes the need to maintain extensive performance documentation. One General Manager (GM6) described how *"Some of our customers are not aligned with local conditions and expect us to adopt practices which are similar to suppliers in other economies. Our sincere attempts to explain this will fail most of the time and ultimately affects our compliance performance".*

Attrition Rate (AF9): The garment industry is prone to high staff turnover due to its poor working conditions and low wages (De Neve, 2014; Mezzadri, 2015). According to participants, untrained employees affect production efficiency and increase the likelihood of SCC noncompliance by increasing the burden on other staff. Similar high attrition rates among well-trained, mid-level compliance executives and internal auditors also disrupt SCC audit processes.

Manufacturing Cluster Behavior (AF10): The garment manufacturing clusters in developing nations are vital for assuring social sustainability policy formulation and implementation (OECD, 1999; Lund-Thomsen & Nadvi, 2010; Giuliani, 2016; Fayyaz et al., 2017). However, a commonly held fear is that the enterprise's responsible practices (termed *Enterprise Social Responsibility* in the Indian context) will indirectly coerce cluster members to break ranks (Lund-Thomsen & Pillay, 2012). One plant general manager (GM9) acknowledged that "*While it is important that we align ourselves with global standards, we need to be seen to not stray too far from local industry practice. If we do, we may not enjoy the cooperation of the other members [of the cluster].*" Thus, SCC implementation involves tensions and conflicts with local institutions and practices, so that many suppliers are standard-takers (Lund-Thomsen & Nadvi, 2010). Cluster firms confronted with the conflicting demands of business stakeholders have developed various SCC implementation approaches (Barrientos & Smith, 2007; Suresh, 2010, Gereffi & Lee, 2016), including joint engagements to address common problems (Lund-Thomsen & Pillay, 2012). On the other hand, a member firm experiencing intense competition may feel the need to introduce SCC practices that do not conform to the cluster's norms.

Product Nature (AF11): SCC compliance in the global garment industry is influenced heavily by the fleeting nature of fashion products (Perry & Towers, 2013), which requires short lead times (Jiang,

2009a). Participants described how failure to appreciate the nature of the product and its production intricacies at the pre-production stage trigger noncompliance when production processes previously approved deviate from meeting delivery requirements.

Opportunistic Behavior (AF12): Opportunism invites actors to behave according to self-interest due to a lack of honesty in business transactions (Rindfleisch & Heide, 1997; Williamson, 1985). Deviousness may trigger SCC noncompliance, and participants described many examples of self-interest in the apparel industry, including obtrusive behavior by buyers and agents (Boyd et al., 2007) and changes to production planning that favors buyers. Similarly, such retail buying practices as short-lead times, delivery flexibility, price-cutting, and frequent changes to business terms may lead to reduced standards adoption (Perry & Towers, 2013). One merchandise manager (KAM13) described how opportunism even extends to third-party inspections when he opined that, "*Sometimes, they [third-party inspection agencies] deliberately fail factories for noncritical, easily resolvable issues, and classify them as major/critical issues to push repeat inspections that directly increase their income. As a supplier, we do not have a voice as these inspection agencies are highly influential and project a different picture about the factory to the buyers, who are not directly involved in the inspection process."* Some buyers also continue to transact with factories for the cost advantages, despite an unfavorable compliance history. Likewise, even when suppliers are entirely aware of the compliance problems involved in engaging subcontractors, they can be coerced down this opportunistic route by the buyer's cost and lead-time priorities (Starmanns, 2017).

Buyer Preference (AF13): The dynamics of the buyer-supplier relationship affect SCC adoption (Locke et al., 2007; Perry & Towers, 2013), with garment buyers generally driving implementation (Mamic, 2005). Some brands/customers are willing to settle for lesser SCC standards from their suppliers and use compliance norms merely to gain legitimacy, enhance their image, or deflect criticism (Gugler & Shi, 2009; Giuliani, 2016). As a Vice-President (SP3) stated when referring to a small volume buyer, *"We often get signals from them not to give priority to social compliance and only focus on quality and delivery."* This behavior encourages suppliers to pay less attention to SCC compliance details and focus on order fulfillment instead (Ciliberti et al., 2009).

Compliance Implementation/Monitoring(AF14): Buyers often pressure their garment suppliers to submit to intensive SCC monitoring (Boyd et al., 2007). When formalized, such systems reflect legitimate attempts at a strict follow-up strategy that includes self-regulatory checks (Fairman & Yapp, 2005; Baden et al., 2009). However, one consultant (CO2) reveals a factory's reaction to the (preannounced) audit schedules of the buyers and their agents, which "*cause factories to postpone SCC decisions until close to the time of inspection. While this offers breathing space to meet other business requirements such as operational costs and deliveries, it may trigger a non-compliance incident."* More generally, monitoring within the apparel industry is perceived to be a reactive behavior rather than the result of agreed and

enforced standards. The absence of a robust long-term strategy and efficient internal control mechanisms leads to increased costs (Acquier et al., 2017) and a poor SCC attitude in the production environment.

Penalties and Incentives(AF15): The participants reported that the workforce frequently fails to understand SCC contract conditions and the implications of being non-compliant. On the other hand, firms that understand the penalties and incentives can improve their performance and business relationships when compliance standards become more rigorous (Porteous et al., 2015). Penalties include levies, fewer business opportunities, and termination of contracts (Lee et al., 2012). Conversely, incentives may include public recognition, training, extra business, preferential status, and better prices. The participants also stressed how buyers for the large apparel chains display little interest in setting terms and conditions that duly recognize supplier needs.

Phase 2 –Fuzzy DEMATEL analysis and Threshold analysis

The expert panel validated the fifteen shortlisted antecedents using pairwise comparisons. Every expert assessed each factor's direct influence on every other factor, thereby creating a direct-relation matrix. The total relation matrix shown in Table 2 was determined using steps 2-4 of the fuzzy DEMATEL analysis procedure. The sum of the rows (R) and of the columns (C), which have implications for the antecedent effect on nonconformities, is then computed and the (R+C) and (R-C) values calculated. The (R+C) value depicts the prominence (importance) of an antecedent factor on entire noncompliance behavior and indicates the total effects regarding influenced and influential antecedent power. The relation or influence (R-C) value represents the causal-and-effect relationship. When the (R-C) value is positive, the antecedent is in the causal category. Otherwise, it is in the effect category (Wu & Lee, 2007; Lin, 2013). Table 3 shows the resulting prominence and net causal-effect values, and their ranking

Table 2 Total relation matrix

Factors	AF1	AF2	AF3	AF4	AF5	AF6	AF7	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
AF1	0.15	0.19	0.21	0.12	0.17	0.17	0.17	0.06	0.19	0.04	0.2	0.18	0.09	0.23	0.1
AF2	0.17	0.1	0.17	0.06	0.11	0.12	0.11	0.04	0.17	0.03	0.16	0.09	0.05	0.18	0.12
AF3	0.17	0.11	0.11	0.06	0.14	0.07	0.16	0.05	0.1	0.04	0.14	0.14	0.06	0.17	0.06
AF4	0.22	0.22	0.24	0.09	0.18	0.13	0.2	0.12	0.18	0.08	0.21	0.18	0.09	0.25	0.15
AF5	0.24	0.2	0.25	0.16	0.12	0.17	0.2	0.12	0.2	0.04	0.22	0.18	0.08	0.25	0.12
AF6	0.21	0.19	0.21	0.13	0.13	0.1	0.13	0.12	0.19	0.05	0.16	0.12	0.12	0.21	0.09
AF7	0.09	0.16	0.15	0.05	0.07	0.06	0.07	0.03	0.15	0.02	0.14	0.07	0.04	0.16	0.12
AF8	0.21	0.2	0.21	0.08	0.15	0.18	0.14	0.06	0.19	0.08	0.21	0.16	0.09	0.22	0.09
AF9	0.19	0.17	0.19	0.07	0.13	0.12	0.14	0.05	0.1	0.04	0.18	0.14	0.09	0.19	0.07

AF10	0.19	0.19	0.17	0.07	0.1	0.15	0.15	0.08	0.18	0.03	0.13	0.14	0.08	0.19	0.1
AF11	0.2	0.16	0.2	0.13	0.16	0.1	0.17	0.07	0.18	0.03	0.13	0.16	0.13	0.21	0.08
AF12	0.2	0.13	0.2	0.15	0.12	0.14	0.16	0.05	0.14	0.03	0.18	0.1	0.1	0.17	0.11
AF13	0.21	0.18	0.21	0.09	0.15	0.15	0.15	0.05	0.17	0.03	0.19	0.17	0.06	0.2	0.09
AF14	0.19	0.18	0.19	0.09	0.15	0.15	0.15	0.06	0.13	0.03	0.18	0.12	0.09	0.14	0.11
AF15	0.09	0.1	0.06	0.05	0.05	0.04	0.06	0.02	0.05	0.05	0.05	0.05	0.03	0.13	0.04

Table 3 Degree of prominence and net cause-effect values

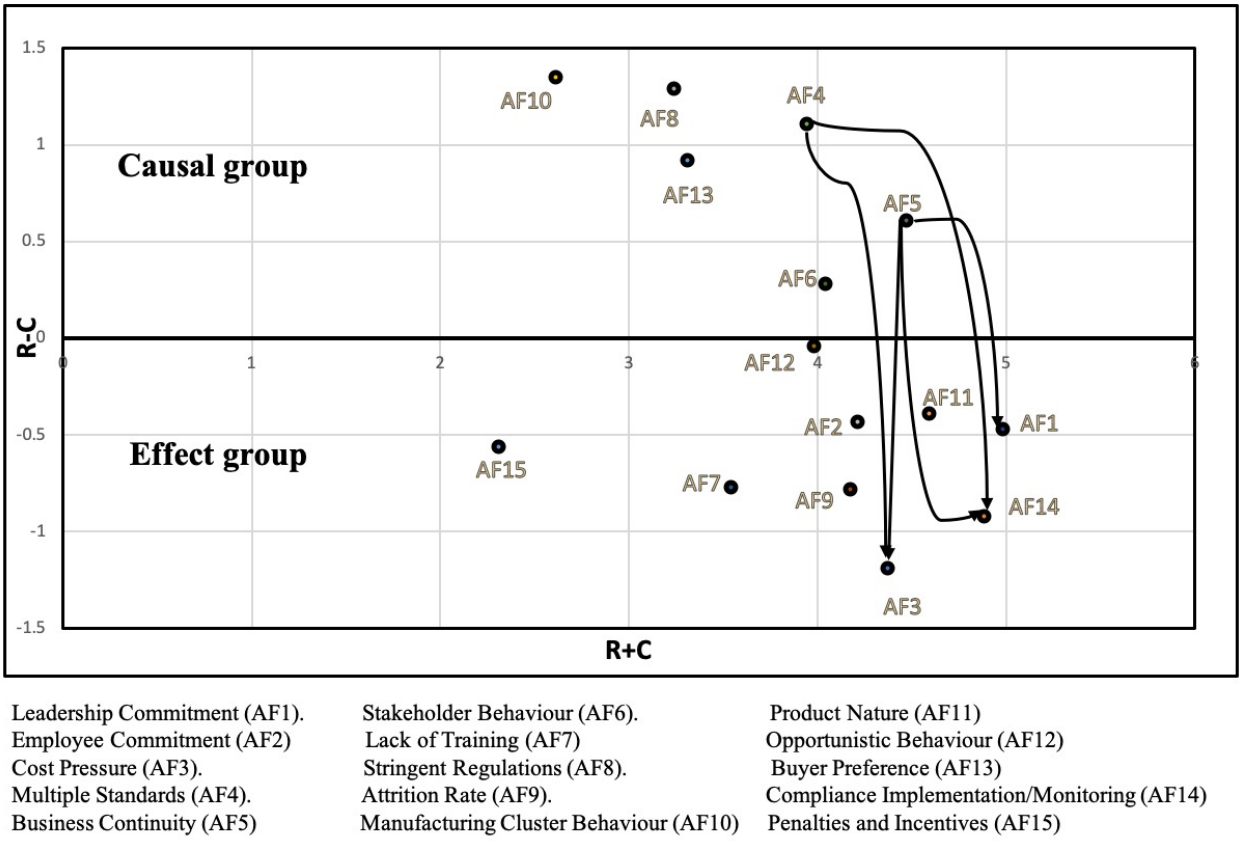
AF	R sum	C sum	(R+C)	Overall rank	(R-C)	Cause/ Effect	Overall rank
AF1	2.25	2.72	4.98	1	-0.47	E	10
AF2	1.69	2.47	4.17	7	-0.78	E	13
AF3	1.59	2.78	4.37	5	-1.19	E	15
AF4	2.52	1.41	3.94	10	1.11	C	3
AF5	2.54	1.93	4.47	4	0.61	C	5
AF6	2.16	1.88	4.04	8	0.28	C	6
AF7	1.38	2.16	3.54	11	-0.77	E	12
AF8	2.26	0.97	3.24	13	1.29	C	2
AF9	1.89	2.32	4.21	6	-0.43	E	9
AF10	1.98	0.63	2.61	14	1.35	C	1
AF11	2.1	2.49	4.59	3	-0.39	E	8
AF12	1.97	2.01	3.98	9	-0.04	E	7
AF13	2.12	1.2	3.31	12	0.92	C	4
AF14	1.98	2.9	4.88	2	-0.92	E	14
AF15	0.87	1.44	2.31	15	-0.56	E	11

Sensitivity Analysis

A sensitivity analysis detected changes in the model due to input variations. Different weights were assigned systematically to check consistency in decision-making and detect any expert panel bias (Saltelli et al., 2008). Rather than assigning a different weight to each expert, which would have resulted in very many combinations, the experts formed into six groups, and a more substantial weighting of 0.5 was assigned to one group, while the others were held constant with a value of 0.1 (Venkatesh et al., 2017). Minimal deviations were obtained in the (R+C) and (R-C) rankings, indicating the causal-effect relationships' robustness. No severe bias exists in the expert group ratings, and the results were deemed sufficiently reliable for the prioritization analysis.

Causal-effect Analysis.

The dataset in Table 3 produced the *causal and effect (DEMATEL)* diagram shown in Figure 4. Here, a factor's (R+C) value indicates the strength of influences given and received, i.e., the degree of the central role the factor plays in SCC noncompliance. A positive (R-C) value indicates that the factor is affecting other factors and deserves closer attention. Conversely, when other factors influence the factor, a negative (R-C) value results (Tzeng et al., 2007)



Leadership Commitment (AF1).
Employee Commitment (AF2)
Cost Pressure (AF3).
Multiple Standards (AF4).
Business Continuity (AF5)
Stakeholder Behaviour (AF6).
Lack of Training (AF7)
Stringent Regulations (AF8).
Attrition Rate (AF9).
Manufacturing Cluster Behaviour (AF10)
Product Nature (AF11)
Opportunistic Behaviour (AF12)
Buyer Preference (AF13)
Compliance Implementation/Monitoring (AF14)
Penalties and Incentives (AF15)

Figure 4 Causal and effect map of noncompliance antecedents

A positive (R-C) value indicates that the antecedent belongs in the causal group and a negative (R-C) value indicates the antecedent belongs in the effect group. The larger the absolute value of (R-C), the more impactful is the antecedent on noncompliance. Although the (R+C) values represent the relative significance of individual factors, and those with a comparatively high (R+C) score deserve extra consideration when ranking the criteria, factors do not need to be in the causal category. Table 4 characterizes six factors as belonging to the causal group. Although *Stakeholder Behavior* (AF6) appears, its effect on overall non-compliance is only minor according to its very small (R-C) score. The remaining five causal factors are the most influential for triggering noncompliance: *Manufacturing Cluster Behavior (AF10)*, *Stringent Regulations (AF8)*, *Multiple Standards (AF4)*, *Business Continuity (AF5)*,

and *Buyer Preference (AF13)*. Of these, the two root causes *Manufacturing Cluster Behavior* and *Stringent Regulations* have the largest (R-C) values so merit closer attention by industry professionals when formulating SCC compliance strategy. Section 6 discusses these interactions in more detail.

Table 4 Classification of SCC noncompliance antecedents

Causal factor	Delphi rank	Effect factor	Delphi rank
Multiple Standards (AF4)	6	Leadership Commitment (AF1)	1*
Business Continuity (AF5)	5*	Employee Commitment (AF2)	1*
Stakeholder Behaviour (AF6)	3*	Cost Pressure (AF3)	2
Stringent Regulations (AF8)	7	Lack of Training (AF7)	4
Manufacturing Cluster Behaviour (AF10)	3*	Attrition Rate (AF9)	5*
Buyer Preference (AF13)	3*	Product Nature (AF11)	7*
		Opportunistic Behaviour (AF12)	7*
		Compliance Implementation/Monitoring (AF14)	8
		Penalties and Incentives (AF15)	9

*Joint rank

The study also characterizes nine factors as belonging to the influenced (effect) group, which can be considered secondary antecedents influenced by other factors when formulating SCC strategy and policy. While the factors *Leadership Commitment* (AF1) and *Product Nature* (AF11) both have high (R+C) values, indicating their strong influence given and received, their negative (R-C) values indicate they are effect antecedents. Penalties and Incentives (AF15) are also an effect antecedent, although much less influence is given and received. The large negative (R-C) values indicated for *Cost Pressure* (AF3) and *Compliance Implementation/Monitoring* (AF14) indicate that they are far from being the root causes of SCC noncompliance.

Interestingly according to the DEMATEL analysis, several of the high convergence antecedent factors reported by the expert panel are not prime *causal* antecedents. For example, *Leadership Commitment* (AF1) and *Employee Commitment* (AF2), which both received the highest Delphi ranking by the expert panel, are characterized by DEMATEL as effect factors influenced by other antecedents. This divergence shows how simple frequency ranking may not provide sufficient insights into organizational behavior's intricate dynamics. The value of DEMATEL is that it circumvents linear analysis and scientifically orchestrates a causal-effect interactive map based on quantification of the antecedent effects on each other. Such non-intuitive and quantitative analysis highlight why it is essential to employ a scientific prioritization technique like fuzzy DEMATEL to

uncover the behavioral relationships that interact directly or indirectly, which are frequently veiled and non-intuitive.

Threshold Analysis

Threshold analysis uses a cut-off value below which the relationships are judged less significant (Zhu et al., 2014). Using a high cut-off value (1.5 standard deviations) helps identify the most significant relationships, with those remaining considered independent factors. Table 5 identifies five prominent relationships, of which three involve *Business Continuity (AF5),* which impacts *Leadership Commitment (AF1); Compliance Implementation/Monitoring strategy (AF14);* and *Cost Pressure (AF31).* Two of the relationships involve *Multiple Standards (AF4),* which impacts the *Compliance/implementation strategy (AF14);* and *Cost Pressure (AF3).* Two final rounds of triangulation discussions with six practicing professionals helped to elicit meaningful interpretations.

Table 5 Prominent antecedent relationships

Causal factor	**Effect factor**
Business Continuity (AF5)	Cost Pressure (AF3) Compliance Implementation/Monitoring (AF14) Leadership Commitment (AF1)
Multiple Standards (AF4)	Cost Pressure (AF3) Compliance Implementation/Monitoring (AF14)

5. Discussion

SCC compliance is of strategic importance in global sourcing, and this research provides an in-depth understanding of the antecedents that lead to supplier non-compliance within the context of the Indian garment industry; classifying them as *causal* or *effect* according to their interaction scores

(Fontela & Gabus, 1976; Wu & Lee, 2007). This causal-effect analysis considerably informs sustainability governance decision making by uncovering the complex inter-organizational and intra-organizational relationships (Bai & Sarkis, 2013).

Deliberating the relationships between the antecedents through the lens of stakeholder theory revealed an intertwining complex of stakeholder considerations that may compel an apparel supplier to decouple from SCC compliance and adopt organizational practice only symbolically (Rogers et al., 2007). Our findings confirm that various stakeholders play a crucial noncompliance role (Sarkis et al., 2010; Freise & Seuring, 2015). These stakeholders can be internal (managers and employees) or external to the firm (buyers, manufacturing clusters, MSIs, the State, and industry associations). While some may have little control over the firm's SCC decision, others directly influence non-compliance behaviors. Here, the theory of reasoned action helps explain stakeholder attitudes, behaviors, and subjective norms (Ajzen & Fishbein, 1980), which are often the result of personal values and beliefs about social compliance.

To date, a lack of attention has been given to manufacturing clusters as external stakeholders when establishing responsible sustainability practices (Lund-Thomsen & Pillay, 2012; Gereffi & Lee, 2016). Our empirical evidence that *Manufacturing Cluster Behavior* is an essential antecedent for triggering noncompliance (AF10 in Figure 3), as theorized by Gereffi and Lee (2016), is perhaps the most significant research finding. The finding that collective behavior influences individual suppliers within the cluster also aligns with the Fontana & Egels-Zandén (2018) view. The SCC actions of manufacturing clusters depend on a wide range of civil society actors including (local and national) government, the financial institutions, non-governmental organizations, and labor unions (Lund-Thomsen & Nadvi, 2010), which makes it difficult for clusters to respond to the challenges coherently (Knorringa & Nadvi, 2016; Venkatesan, 2019). Their attitude to social sustainability is influenced primarily by social norms that hinge on the cluster members' traditions and local beliefs (Frost & Egri, 1991). For example, in India, the *Ludhiana* knitwear cluster manufactures garments mostly for the domestic market, while the *Tirupur* cluster concentrates on the export market. Both are renowned for their knitted garments, and their cultural practices connect the memberships of their heterogeneous production clusters. Our study acknowledges this normative social behavior and attitude by recognizing that cluster members can be 'standard-setters' and 'standard-takers' for SCC adoption. This view contrasts with Gereffi & Lee (2016), who describe clusters as 'standard-takers' or 'standard followers' exclusively. Attitudinal and behavioral responses to the fear of exclusion from the cluster and the intention to remain competitive are significant reasons for these actions. For example, when a member firm in the cluster introduces a financially or operationally superior process, the other members are likely to copy the innovation.

Manufacturing clusters may exhibit significant differences in pay, worked overtime, security practices, and professional development; for example, small businesses and home-based units dominate the *Ludhiana* and *Tirupur* hubs (Mezzadri, 2015; Venkatesan, 2019). However, if behaviors deviate from the expectations set down in the buyer's standard, they can pose a severe challenge to the entire production network's SCC status (Pyke & Lund-Thomsen, 2016). For example, non-compliance could result if one supplier starts frisking employees as a security measure when the standard considers such practice to be a form of discipline that is barred. As deliberated by Giuliani (2016), the relationship between cultural relativism and local community-wide behavior can also impact suppliers' social sustainability behavior. Thus, suppliers tend to ally their activities to everyday manufacturing cluster practices and prefer not to isolate themselves by taking unilateral actions that may conflict with production network values.

Our findings also indicate that *Stringent Regulations* (AF8) are a major causal factor. The garment industry is strongly buyer-driven, resulting in unrealistic production targets and the unfair distribution of responsibilities (Jiang, 2009a). SCC norms often impose strict conditions that do not consider the needs of manufacturing clusters or individual supplier firms, and the participants reported how buyers rarely listen to appeals by suppliers and fail to understand local conditions and considerations. Such inflexibility should prompt an essential question for the global value chains regarding specific SCC formulations and to what extent there is a mandate to incorporate regional laws, local stakeholders, and industry practices (Gereffi & Lee, 2016).

This study provides empirical support for the argument by Locke et al. (2013) that the *Multiple Standards* (AF4) of buyers and third-party stakeholders create confusion around work standards, human resources, and other regulatory requirements, leading to non-compliant behavior. Heterogenous responses include compromise, avoidance, defiance, and manipulation that can trigger decoupling behavior (Oliver, 1991; Huq & Stevenson, 2020). As one factory manager (GM10) reflected, "*We always have the problem that different buyers insist we use different standards for the same manufacturing practice, and this leads to a conflict situation. Eventually, a buyer will rate us low on compliance."* For example, one buyer's SCC may call for a single arrow system to be painted on the production floor to guide employees to the emergency assembly points. In contrast, another buyer insists on a double-arrow system for material movements and emergency evacuations.

Although the participants declared C*ost Pressure* (AF3) to be a prime antecedent of noncompliance, the DEMATEL analysis indicates it is an influenced (effect) antecedent; the multiple audits and production changes that result from *Multiple Standards* (AF4) and *Stringent Regulations* (AF8) lead to increased costs. In an emerging economy like India, cost pressures to remain competitive can

undermine the ability to take advantage of training that is sorely needed (Jayasinghe, 2016). Hence, supplier firms should carefully assess the trade-off between the need to accommodate the SCC regulations to gain new orders and the risk of deviating from compliance norms and thereby missing out on orders.

From the perspective of the theory of reasoned action, the professionals interviewed for this study accept that *Business Continuity* (AF5) considerations influence the SCC implementation decision, mainly when forecasts are judged unreliable or indicate low sales volumes. The prominent-relationship analysis highlights that assured business volumes trigger *leadership commitment* (AF1) because long-term business opportunity motivates top management to address specific SCC requirements. For example, if SCC compliance calls for significant investments in plant or machinery, the trade-off between cost and business return will be carefully assessed using a procedure that sets the compliance direction and intent (Bagozzi et al., 1990; Surie & Ashley, 2008). The participants also highlighted that leadership quality affects organizational perceptions and actions. For example, if a business owner sets unreasonable production targets that raise employee stress levels, this creates fear around job security that can negatively influence *Employee Commitment* (AF2) and lead to a higher staff *Attrition Rate* (AF9).

Our findings confirm that Indian apparel suppliers rarely make an effort to acquire, interpret, distribute, and retain social sustainability knowledge (Jiménez-Jiménez & Sanz-Valle, 2011). This tendency hinders SCC implementation in various ways and ultimately condemns firms to continue their myopic views. Aberrant leaders are even less likely to invest in employee *Training (AF7)*, which negatively influences learning orientations driven by intra-organizational and inter-organizational factors (Roy et al., 2020). Thus, our findings suggest that firms need to reorientate continuous organizational learning agendas to achieve closer alignment with sustainability goals, similar to Roy et al.'s environmental sustainability findings (2020). Participants espoused that, on the one hand, continuous learning initiatives would help the firm adopt sustainable thinking within their operations to meet market needs (Caniato et al., 2012). However, a continuous focus on sustainability could also profoundly impact SCC compliances due to increased recruitment, maintenance, and training costs. This dichotomy opens an intriguing agenda for manufacturing leadership to balance its sustainability dynamics with learning while navigating the business stakeholder's preset implementation pathway (Rebs et al., 2019).

Opportunistic Behavior (AF12), which is caused by suppliers and buyers distorting or withholding information due to having a self-interest attitude, is a primary reason for noncompliance (Tsoi, 2010; Huq et al., 2014). The participants pointed to coercive *Stakeholder Behavior* (AF6) as an antecedent of the *Compliance Implementation/Monitoring strategy* (AF14). For example, some buyers and their

representatives insist on holding frequent, intrusive audits of supplier factories that can result in SCC decoupling behavior by the affected employees (Crilly et al., 2012). On the other hand, the participants described how incompetent or corrupt compliance auditors and ineffective monitoring (Venkatesan, 2019) encourage production staff to adopt a carefree attitude that affects technical and human resource decisions, triggering noncompliance. Rather than focusing on achieving and maintaining SCC compliance, their focus is on lead-time and product quality. However, this emphasis may also be due to the costs of regulatory approval delays, difficulties in understanding labor standards and safety requirements, and corrupt government authorities (Huq et al., 2014). SCC norms are meaningless unless regulators play an active role in their enforcement (Delmas & Toffel, 2004; Fox, 2004).

6. Implications of the study

6.1 Theoretical Implications

Our study offers insightful theoretical implications regarding the production literature's noncompliance phenomenon by advancing discussions around SCC implementation in emerging markets (Huq & Stevenson, 2020). Overall, the study adopts a mixed-method approach to understand suppliers' collective behavior toward SCC adoption. It focuses on the interactions between six causal and nine effect factors with different scenarios that trigger noncompliance. These interactions provide prescriptive discussions to improve the SCC implementation process.

The findings confirm that a supplier's compliance deliberations are intertwined with operational considerations concerning business volumes, costs, inappropriate governance, and regional cultural norms. This view contrasts with the prior assessment that buyer-driven governance dominates SCC implementations (Oka, 2010), thereby setting an imperative for the convergence of social sustainability and corporate governance by recognizing stakeholders' views. Our findings suggest that horizontal and collective dynamics are potent drivers of SCC implementation within the Indian apparel industry by empirically establishing the role of multiple standards and stakeholder behavior. The empirical study also highlights plausible situations when supply chains are unusually susceptible to stakeholder pressure.

Our findings also add to the debate concerning an extension of stakeholder theory to include sustainability governance by assigning to industry production clusters in emerging markets the status of individual stakeholders. Although studies theoretically argue the importance of clusters in governance (Gereffi & Lee, 2016), our research validates the cluster's role in SCC implementation empirically. Garment production clusters are an essential network constituent due to the standard setters and standard takers that help maintain an essential balance in SCC implementations. This

finding contrasts with the dominant view of clusters as standard takers (Gereffi & Lee, 2016), recognizing the 'standard-setting' attribute.

This study utilizes a reasoned action behavior perspective to reveal insights that account for external and internal stakeholders' conduct, including buyers, business leaders and employees, and third-party auditors. Insights into the tensions between inter-organisational and intra-organizational SCC dynamics bring a new perspective to the institutional logic of noncompliance in an emerging economy context. For example, asserting that opportunistic behavior can trigger non-compliance outcomes helps to enlighten stakeholders on the rationale behind specific noncompliance incidents.

Finally, our study utilizes the fuzzy DEMATEL technique for quantitative analysis of the noncompliance antecedents. This pioneering attempt aimed to classify antecedents into causal and effect groups and explore their relationships with the aid of a strategic interactions map (Bai & Sarkis, 2013). This approach establishes the importance of the scientific processing of judgmental values to deal with the multiplicity of relationships in supply chain behavioral studies, making this study on emerging economies unique (Venkatesan, 2019; Huq & Stevenson, 2020).

6.2 Practical (managerial and policy) implications

The findings have implications for policymakers, manufacturing clusters, individual suppliers, and major retailers and brands.

Firstly, decoding the crucial factors and interactions that trigger SCC noncompliance gesture to the need for synergies between stakeholders to consolidate a multiplicity of standards, address inappropriate manufacturing cluster behaviors, and resolve individual firms' internal issues. Such public initiatives as the *DISHA* (*Driving Industry towards Sustainable Human Capital Advancement*), which the Indian government promotes to endorse uniform standards and integrate local industry into global standards, have proven ineffective. Instead, government and industry associations should identify and address the gaps in the most commonly used frameworks before promoting them widely to industry stakeholders. This integration and recognition would considerably reduce the suppliers' need to cope with multiple standards concerning such critical attributes as work hours, minimum wages, and workplace health and safety issues, which cause disorientation and problems when making operational and strategic SCC implementation decisions. Coordinated action will also help the production networks to motivate Indian apparel suppliers to support stricter enforcement of SCCs, leading to cost savings and higher productivity (Sprinkle & Maines, 2010).

Secondly, instead of the buyers adding to the supplier's burden by insisting on adopting a proprietary or substitute standard, the buyers should be encouraged to acknowledge existing accreditations. Such recognition is critical because the suppliers often struggle to comply with buyers'

multiple standards and *stringent regulations*. Leveraging fewer certifications would minimize noncompliance incidences by reducing inconsistencies and conflicts between SCC norms (such as the symbols used to guide staff to exits), thereby indirectly or directly easing global production noncompliance. Technology can be part of the solution. For example, a collaborative platform *SEDEX (www.sedexglobal.com)* already exists, enabling buyers and suppliers to share audit information and reduce the need to conduct an audit for every customer. Currently, suppliers can upload their *SEDEX Member Ethical Trade Audit* (SMETA) reports onto SEDEX and little else. A more comprehensive and transparent industry-wide system would detail supplier certifications, audit reports, and supplier status, which would help control costs by reducing the number of audits and certifications. If the local government, local manufacturing associations, labor unions, and NGOs were to support such a portal, it would significantly increase recognition of industry standards like minimum wages, overtime policies, and safety practices.

Thirdly, because we have shown *manufacturing cluster behavior* to be one of the crucial causal antecedents of SCC noncompliance, it is vital to increase cooperation between stakeholders to help achieving the brand's global SCC requirements. The major retailers and brands should become familiar with popular cluster-specific practices and promote a universal code for adoption by the local production hub. Sensitive issues like frisking employees, overtime calculations, and leave amounts are specific to individual clusters, which behooves the buyers to review SCC conditions in the light of local practices and norms. Such modified brand/retailer codes would need to incorporate the perspectives of suppliers, customers, NGOs, the government's social responsibility policy, and other significant stakeholders. Enhanced co-operation levels would help reduce SCC implementation complexity by providing a clear direction that does not compromise stakeholders' needs.

Finally, this study supports a 'new governance' approach to improving firms' social sustainability performance, which calls for an integrated social compliance process (Rahim, 2017). This approach offers the means to streamline domestic law and revisit the standard operating procedures of social audits to realign them with global expectations. Such an approach can counter the external and local pressures noted above, thereby leading to new *incentive schemes* and obligatory *training programs* that recognize the firm's social sustainability implementation. Institutionalizing a dedicated corporate hierarchy would support SCC operations, especially in small and medium-sized enterprises, and is not common in emerging economies (Eriksson & Svensson, 2016). Moreover, it can open up new opportunities for stakeholders like NGOs, manufacturing councils, and third-party certification firms, empowering them to participate in SCC implementation. Effectively, closer coordination would help reduce incidences of *opportunism* and encourage appropriate *stakeholder behavior*.

7. Conclusion

Many of the global buyers have transferred SCC compliance responsibility to their emerging economy suppliers. Hence this research makes a timely contribution by investigating the suppliers' operational challenges and the behavioral logic that can lead to noncompliance.

This research contributes to narrowing a knowledge gap in the sustainability governance literature by focusing on the prime antecedents of non-compliance behavior in an emerging economy context and identifying the root cause antecedents of non-compliance. The study also makes a unique contribution to the SCC implementation literature by pioneering the use of fuzzy DEMATEL to classify the noncompliance antecedents into causal and effect groups and analyze interactions that are often veiled and non-intuitive. Thus, this application of DEMATEL substantiates the value of interaction-based quantitative studies in sustainability governance research to comprehend the intricate relationship dynamics.

Overall, the study theorizes that a supplier's compliance deliberations intertwine with operational considerations around business volumes, costs, inappropriate governance, and regional cultural norms. It identifies manufacturing cluster behavior as a crucial cause of noncompliance, and it establishes the need to recognize such clusters as essential stakeholders in their own right. The study also draws policymakers' attention to the need to address the high priority factors identified and stresses the importance of institutionalizing specific mechanisms to manage the antecedents effectively. Finally, this study highlights the need for an industry-wide compliance policy framework that is collaborative and consistent when regulating non-compliance behaviors.

A study of this scope inevitably has limitations. The findings are established on apparel industry professionals' opinions concerning supplier non-compliance; however, not included are the views of sub-suppliers (such as washing, printing, and embroidery suppliers), third-party inspection firms, and buying/sourcing agents. The research design, analysis, and interpretations focus on a single region and industry setting, whereas the factors identified may vary across different sociocultural and economic contexts.

This study helps to set the direction for further research. Firstly, it prompts a multi-stakeholder study to explore why there are no uniform standards in a particular industry. Secondly, it motivates studying private, social, and public governance patterns in SCC implementations (Gereffi & Lee, 2016). The participant sample comprised different sized companies; hence, research might usefully study the (causal-effect) grouping pattern of the antecedents based on firm size, which appears to influence the degree that corporate social responsibility is communicated symbolically as opposed to being fully implemented (Wickert et al., 2016). The effect of firm turnover and SCC type (buyer/retailer or third-party standard) on antecedent grouping patterns is worthy of study. A

comparative between-cluster study would help to assess the generalisability of the factors and validate the causal-effect relationships. Finally, the confirmed presence of standard takers and setters in manufacturing clusters might encourage sustainability governance researchers to refocus their efforts onto cluster-driven approaches to SCC compliance and integrate them into existing strategy frameworks.

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Annexure A - Key antecedent themes in the literature

Key themes	Focused antecedent	References
Supply chain operations	Price Pressure	Lepoutre & Heene (2006); Lim & Philips (2008); Quan (2008); Jiang (2009a,b); Gereffi & Lee (2016); Jayasinghe (2016)
	Penalties & Incentives	Lee et al. (2012); Porteous et al. (2015)
	Delivery Pressures	Masson et al (2007); Ciliberti et al. (2009); Gugler & Shi (2009); Guiliani (2016)
	Business continuity	Crifo et al. (2016)
	Stakeholder related	Boyd et al. (2007); Huq & Stevenson (2020)
Supplier code & Compliance	Inconsistent/Multiple standards	Locke et al. (2007); Mezzadri (2014)
	Regional cum local culture and their impact	Locke et al. (2007); Lund-Thomsen & Nadvi (2010); De Neve, (2014); Silvestre (2015); Guiliani (2016); Gereffi & Lee (2016); Fayyaz et al. (2017); Venkatesan (2019)
	Stringent regulations	Jiang (2009a,b); Zakaria et al. (2012)
Organizational	Ineffective monitoring	Hong & Jones (2012); Accquier et al. (2017)
	Opportunistic behavior	Boyd et al. (2007); Perry & Towers (2013); Starmanns (2017)
	Commitment level (Employee and leadership)	Fritz et al. (1999); Neilsen et al. (2009); Groves & LaRocca (2011); Pedersen (2009); Yu & Tseng (2014)
	Training	Lund-Thomsen & Nadvi (2010)
	Attrition rate	De Neve (2014); Mezzadri (2015)

Annexure B - DEMATEL

Step 1: Formalize the criteria for assessment

After identifying potential SCC antecedents of noncompliance from the extant literature and consultation with apparel industry practitioners, the main factors are selected for further assessment.

Step 2: Develop an initial direct relation matrix

Every Delphi panel member is asked to assess the degree of direct influence they believe each factor exerts on every other factor. As below fuzzy linguistic scale indicates, the pair-wise comparisons involve linguistic judgments and use a scale with anchors 0 = No influence and 4 = Very high influence (Wu et al., 2015). Average matrix values are obtained for the whole panel, in which each element is the mean of the same elements from the different matrices of the expert panel members. Then, the initial direct relation matrix is obtained by normalizing the average matrix, in which all principal-diagonal values are equal to zero. This matrix contains the initial direct influences that a factor exerts on, and receives from, other factors.

Fuzzy linguistic scale

Linguistic description	Preference score	Equivalent TFN
No influence	0	(0, 0, 0.25)
Very low influence	1	(0, 0.25, 0.5)
Low influence	2	(0.25, 0.5, 0.75)
High influence	3	(0.5, 0.75, 1.0)
Very high influence	4	(0.75, 1.0, 1.0)

Step 3: Develop a crisp matrix

Fuzzy numbers are not appropriate for matrix operations, so the fuzzy direct relation matrix values are converted to crisp values (Wu & Lee, 2007).

Step 4: Obtain the normalized initial direct relation matrix

The direct-relation matrix is normalized, resulting in the total relation matrix. A sensitivity analysis adjusts the weights assigned to groups of panel experts.

Step 5: Construct the causal and effect map.

A diagram indicates the relationships between the factors and the strength of influence given/received.

Step 6: Threshold analysis

A threshold value is applied to recognize the prominent relationships through standard deviation.

Annexure C - Participant Profile

		Designation	Location	Experience (years)	Firm Size (approx.)
Senior Professionals (SP)					
	SP1	Chief Executive/Managing Director	Tirupur	16	3800
	SP2	Senior Vice-President (Operations)	Bangalore and Delhi	18	10000
	SP3	Managing Director	Tirupur	22	6000
	SP4	Head - Operations	Bangalore	24	4300
	SP5	Managing Director/Owner	Madurai	28	700
General Manager/Factory Operations (GM)					
	GM1	General Manager	Bangalore	20	8000
	GM2	Factory Manager	Chennai	12	1300
	GM3	Chief Production Manager	Tirupur	25	6500
	GM4	Assistant General Manager	Tirupur	14	5200
	GM5	Factory Head	Delhi	18	4200
	GM6	Production Leader	Chennai	12	1800
Account Managers/Merchandising Professionals (AM)					
	AM1	Merchandising Manager	Coimbatore	16	720
	AM2	Merchandising Manager	Tirupur	14	650
	AM3	Merchandising Head	Tirupur	22	1400
	AM4	Divisional Merchandising Manager	Chennai	19	3400
	AM5	Key Account Manager	Rajapalayam	16	640
	AM6	Merchandising Executive	Bangalore	14	1200
Compliance/Audit Managers (CA)					
	CA1`	Quality/Auditing Executive	Tirupur	15	570
	CA2	Operations Executive	Bangalore	11	600
	CA3	Senior Operations Executive	Bangalore	13	900
	CA4	Production Executive	Tirupur	10	850
	CA5	Compliance Manager	Bangalore	10	920
	CA6	Compliance Head	Bangalore	16	4200
	CA7	Compliance Manager	Tirupur	13	1500
	CA8	Senior Compliance Executive	Chennai	22	1200
	CA9	HR & Compliance Manager	Tirupur	16	780
Industry Consultants (CO)*					
	CO1	Consultant (1)	Delhi	11	3200
	CO2	Consultant (2)	Chennai	17	1700
	CO3	Consultant (3)	Bangalore	21	1300
	CO4	Consultant (4)	Tirupur	16	1800

*The manufacturers engage Consultants (CO) *on a fixed-term basis as a member of an operations team responsible for overall business efficiency, including compliance. Their stated firm size is indicative of the scope of operations with which they were most recently associated.*

Annexure D - Interview (lead) questions

1. What are your views on the status of social compliance adoption in the current industry scenario?
2. What are the major issues in implementing the norms?
3. Have you encountered problems in SCC adoption in your operations? Could you please share your experience?
4. How do you benchmark those problems with overall industry?
5. Can you identify the major sources of those problems of noncompliance? And rank them?
6. Can you describe them from the internal and external perspectives And rank them?
7. What are the effective strategies to get the best results in a social compliance program (policy and tactical)?

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