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**Role of Formal and Informal Institutions in  
Advancing Sustainable Environmental Practices  
in SMEs of Pakistan's Textile Sector**

**Raees Aslam**

A thesis submitted to The Open University in fulfilment  
of the requirements for the degree of

Doctor of Philosophy

The Open University

December 2022

**Role of Formal and Informal Institutions in  
Advancing Sustainable Environmental Practices  
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2022

## **Abstract**

Economies around the globe have established formal institutions to protect their natural environments (Klewitz et al., 2012, Wahga et al., 2018b), but parallel to them are 'proto-institutions' that also make an important contribution towards sustainable development. A proto-institution, an institution in the making, comprises rules, practices, and technologies that are partially diffused and weakly entrenched but poised to become widely institutionalised (Lawrence et al., 2002, p. 283). This qualitative study examines how proto-institutions in Pakistan's textile sector emerged and played a role in promoting sustainable environmental practices. Stakeholder Theory and Institutional Theory were combined to guide data collection and analysis. Primary data were collected through in-depth interviews, field observations and a field journal, whereas secondary data came from archival records and industry-specific publications. NVIVO 12 was used to sort and prepare data for analysis. Grounded analysis (Gioia et al., 2013, Easterby-Smith et al., 2015) revealed that institutional voids (Mair and Marti, 2009) and institutional gaps (Kolk, 2014) impeded the ability of formal institutions to assist the textile sector and ensure compliance with the established Punjab Environmental Quality Standards (PEQS). Due to these voids and gaps, textile manufacturers and stakeholders collaborated in various ways, resulting in the emergence of proto-institutions. These proto-institutions address the 'knowledge gap' by conducting informative seminars, capacity building workshops, and the production of best practice manuals. They bridge the 'cleaner production gap' by devolving internationally tested cleaner production solutions and assisting with their implementation. In addition, they take steps to close the 'compliance gap' by building the capacity of firms and public institutions. They fill the 'R&D gap' through commercial research into inputs, processes, and product development. They also provide firms with financial assistance through matching grants that help firms overcome their 'financial assistance gap' and acquire international certifications for market entry into global markets and undertake business development services. In doing so, these proto-institutions imposed

normative and mimetic pressure on firms to adopt green practices while coexisting with formal institutions as compensatory institutions to create environmentally compliant isomorphs (firms). These findings add to the insights about institutional work processes and roles of proto-institutions, by presenting evidence from a previously under-research context: promoting sustainability in a SMEs dominated manufacturing sector of a developing country. In terms of practice, these findings are helpful information for textile manufacturers who are yet unknown to the benefits they could reap by adopting sustainable practices and processes in their manufacturing concerns. The information about collaboration is helpful for stakeholders looking to form new partnerships for responsible production. This study also suggests policymakers to both encourage and collaborate with proto-institutions to accomplish national and international commitments such as SDG 12 - Sustainable Consumption and Production, and race to net zero in textiles. Furthermore, the context specific factors that are affecting the emergence and development of proto-institutions in Pakistan's textile sector could also help policymakers in Pakistan and alike developing countries to overcome institutional gaps and voids in their formal institutional arrangements and better promote sustainable production in their key manufacturing sectors.

## **Dedication**

To my family, my mentor, and all the people I look up to for their support, encouragement, and well wishes.

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## List of Abbreviations

APTMA	All Pakistan Textile Mills Association
APTPMA	All Pakistan Textile Processing Mills Association
BCI	Better Cotton Initiative
CMT	Change Management Team
COP	Communities of Practice
DfS	Dialogue for Sustainability
EMS	Environmental Management System
EPA Punjab	Environmental Protection Agency, Punjab
FCCI	Faisalabad Chamber of Commerce and Industry
IC	Institutional Change
IW	Institutional Work
MoCC	Ministry of Climate Change
NIT	New Institutional Theory
ORIC	Office of Research Innovation and Commercialisation
Pak-EPA	Pakistan Environmental Protection Agency
PEPA 2012	The Punjab Environmental Protection (Amendment) Act 2012
PI sponsor	Proto-institutional sponsor
PI	Proto-institutions
PTEA	Pakistan Textile Exporters Association
RECP	Resource Efficient and Cleaner Production
ST	Stakeholder Theory

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# **Chapter 1 Introduction**

## **1.1. Background of the study**

The conservation of the natural environment has never been as important as it is today (UN Environment, 2019, Hampton et al., 2022, p. 7). Global movements and initiatives are steered towards protecting the natural environment (Blundel et al., 2013, UN Environment, 2019, Mumtaz, 2021) along with support from international organisations. The United Nations' 2030 Agenda for Sustainable Development (UN SDGs) to promote 'planet protection' alongside its goals of ending poverty and improving the lives and prospects of everyone everywhere (UN Environment, 2019); the 2015 Paris Agreement (maintaining the rise in earth temperature under two degrees Celsius); and 'Race to Zero' campaign of the United Nations Framework Convention on Climate Changes for reducing carbon emissions (UN Climate Change, 2022) are indicative of United Nations' efforts in this regard. The World Bank has also brought a climate change perspective in its approach to economic development, now known as Green, Resilient and Inclusive Development (World Bank, 2021a). The private and voluntary sector organisations: Better Cotton Initiative to promote organic cotton across the world (Better Cotton, 2019) and the Ellen MacArthur Foundation's circular economy – eliminating waste and pollution, circulating products at their highest value and regenerating the nature (Ellen MacArthur Foundation, 2022) are also steps towards conserving the natural environment. The regional, national and subnational levels initiatives in this pursuit of preventing and controlling pollution, in compliance with international agreements, are indicative of efforts being put at multiple levels for addressing environmental issues. However, the challenge still persists because "the world is off track in terms of achieving the environmental dimensions of development" (UNEP, 2019, p. 9) and "even if sustainable development goals are achieved by 2030, climate change could easily erode those gains" (World Bank, 2021a, p. 2).

One of the sustainable development goals most related to this thesis promotes sustainable consumption and production (United Nations SDG-12), which requires decoupling economic growth from the natural environment, improving resource efficiency and promoting sustainable lifestyles (UN Environment, 2019). As a result, firms in both developed countries such as the UK (Revell and Rutherford, 2003, Revell

and Blackburn, 2007) and the USA (Hoffman, 1999, Cordano et al., 2010) and, developing countries like China (Puffer et al., 2010, Liu et al., 2019), India (Rathi, 2003, Gandhi et al., 2018) and Pakistan (Ortolano et al., 2014, Wahga et al., 2018b) are taking various measures to reduce their environmental impacts, become eco-efficient and contribute to sustainable development (Jamali et al., 2009, Millar and Russell, 2011). Despite their commitment to protecting the natural environment across the globe, some countries are trying to achieve this goal more proactively and whereas others are lagging. These variations can be explained in part by distinct levels of economic prosperity but can also be attributed to the role that institutions play.

Formal institutions<sup>1</sup> in some countries are stronger as they lend extensive and elaborated support for firms to achieve environmentally sustainable goals (Berrone et al., 2008, Wilson et al., 2012, Blundel et al., 2013), whereas in some countries, the institutional setups are weak (Amaeshi et al., 2016, Hamann et al., 2017, Wahga et al., 2019, Mumtaz, 2021). Moreover, empirical literature suggests that informal institutions in some countries play a more active role than their more formal counterparts in offering support for environmental protection (e.g. Klewitz et al., 2012, Ortolano et al., 2014, Kanda et al., 2018, Wahga et al., 2018b). Though some recent studies offer some explanation of this institutional arrangement<sup>2</sup> i.e., the coexistence of formal and informal institutions to impact behaviour of actors, still there is scope for investigation in various industries and countries contexts. For example, Klewitz et al. (2012) noted that the Ecoprofit® initiative, an intermediary, is working along with formal institutions to build learning networks and transfer eco-related knowledge to German SMEs. Similarly, Wahga et al. (2018b) have noted that Cleaner Production Center, an environmental intermediary along with others, is working together with formal institutions to promote sustainable entrepreneurship in leather manufacturing SMEs in

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<sup>1</sup> Formal institutions are “relatively well diffused practices, technologies, or rules that have become entrenched in the sense that it is costly to choose other practices, technologies or rules”. Adopted from Lawrence, T. B., Hardy, C. and Phillips, N. (2002) 'Institutional effects of interorganizational collaboration: The emergence of proto-institutions', *Academy of Management Journal*, 45(1), pp. 281-290.

<sup>2</sup> Institutional arrangements comprise of 'rules, regulations, norms, values, and taken for granted assumptions about what constitutes appropriate behaviour'. Scott, W. R. (2002) 'The changing world of Chinese enterprise: An institutional perspective', *The management of enterprises in the People's Republic of China*, pp. 59-78.

Pakistan. Therefore, why and how informal institutions, compared to formal institutions, can offer better support to reduce environmental degradation is a fascinating area of research. This study has set out to explore such a phenomenon in a developing country context, detailed in the next section.

## **1.2. Context of the study**

Environmentally sustainable practices are relatively less adopted in developing countries as compared to the developed world (Howes et al., 2017). One of the reasons, among others, is the absence or weak role of formal institutions (Ortolano et al., 2014, Wahga et al., 2018b). These institutional issues are avenues whereat intermediary organisations tend to play their roles, for example, in business support services to small and medium enterprises (SMEs) around the world. The intermediary organisations are broadly classified as ‘public intermediaries’, which are owned by the government, ‘non-profit intermediaries’, which include charities and other non-governmental organisations (NGOs) and ‘private intermediaries’, such as consultancy firms (Kolk et al., 2008). There seems to be greater use of non-profit intermediaries in developing economies, and these are often large NGOs playing roles such as diffusing knowledge, providing motivation and advice and sourcing an external impulse to help firms in various industries become environmentally responsible (Ali and Frynas, 2018, Wahga et al., 2018b). Governments also seek support from non-profit intermediaries to implement their policies (Millar and Russell, 2011, Polzin et al., 2016, Ramirez et al., 2018). Even in the absence of formal institutional support mechanisms, intermediaries are found promoting environmentally sustainable practices in the leather manufacturing industry in Pakistan (Wahga et al., 2018).

Firms, especially SMEs operating in developed economies experience various constraints in adopting sustainable environmental practices, as evident in research, but the constraints are often more severe in developing economies, also evidenced in the research. A broader view of constraints includes resource and capacity constraints e.g., limited knowledge, lack of finance and unskilled labour force (Perez-Sanchez et al., 2003, Lee, 2009, Wilson et al., 2012, Ghazilla et al., 2015), managerial constraints relating to human resource and strategies for sustainability (Jenkins, 2004) and external constraints



such as weak regulative pressures (Brammer et al., 2012a). It may be argued, says Tilley (2000, p. 33), that “small firms are less worthy and less needy, or less relevant research subject compared to larger firms”, but it would be unfair to overlook the business and environmental ethics of small firms because “small firms can no longer be viewed, individually or collectively, as an insignificant component of the economy or the environment” [and that] “small firms are not little big firms” reason being that large firms are considered resourceful and capable of responding to interventions (Hammann et al., 2009, Williams and Schaefer, 2013). Similar observations about SMEs facing constraints are reported in the context of Pakistan (Samad et al., 2015, Ali et al., 2016, Mehwish and Mustafa, 2016, Farooq, 2018, Noor et al., 2018, Sial et al., 2018, Wadho and Chaudhry, 2018, Ikram et al., 2019, Khan et al., 2019, Wahga et al., 2019, Naqvi et al., 2020, Abbas and Halog, 2021, SWITCH-Asia RPAC and Pakistan Institute of Development Economics, 2021). And this study examines the role of intermediaries in promoting environmental improvement in Pakistan’s textile sector.

“Pakistan is the first country to integrate SDGs into its national development agenda in February 2016” (Government of Pakistan, 2019b, p. 71). It has aligned its development approach with the 2030 Agenda for sustainability, e.g., the 12<sup>th</sup> Five Year Plan and provincial medium-term development strategies (Government of Pakistan, 2019b). Prime Minister Mr Imran Khan’s Government (2018-2022) initiated the Clean and Green Pakistan Strategy (CGPS) that would strengthen institutions and promote behavioural changes at the grassroots level so that citizens lend their support to civic organisations (Mumtaz, 2021) through two programmes: Clean Green Pakistan Movement<sup>3</sup> and Clean Green Pakistan Index and Champions Programme<sup>4</sup>. Both initiatives focus on five key areas: plantation, solid waste management, liquid/waste hygiene, total sanitation and safe water (Mumtaz, 2021). For instance, National WASH (Water Sanitation and Hygiene) programme works on liquid waste management (Government of Pakistan, 2021c, p. 327) and the Ten Billion Tree Tsunami Programme restores forests (UNEP,

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<sup>3</sup> For details see UNEP (2021) *Inclusive Wealth of Pakistan: The Case for Investing in Natural Capital and Restoration*, Nairobi. Available at: [unep.org/resources/report/inclusive-wealth-pakistan-case-investing-natural-capital-and-restoration](https://unep.org/resources/report/inclusive-wealth-pakistan-case-investing-natural-capital-and-restoration).

<sup>4</sup> For details see Government of Pakistan, Finance Division Government of Pakistan, Wing, E.A.s. (2021c) *Pakistan Economic Survey 2020-21*. Islamabad: Finance Division, Government of Pakistan p.330

2021). Recently, Pakistan has worked out its National Action Plan (NAP) in collaboration with European Union to advance sustainable consumption and production (SWITCH-Asia RPAC and Pakistan Institute of Development Economics, 2021) and strengthen its resolve for the Paris Agreement 2015 (Government of Pakistan, 2021c, p. 331). However, environmental pollution in Pakistan's textile sector continues to attract international organisations concerning the natural environment, such as the United Nations, the European Union, the World Bank and the World Wide Fund For Nature (WWF Pakistan, 2017, Farooq, 2018, Noor et al., 2018, World Bank, 2019, SWITCH-Asia RPAC and Pakistan Institute of Development Economics, 2021). Textiles is Pakistan's leading exporting sector and employs 40 percent of the industrial labour force and contributes 60 percent to national exports (Government of Pakistan, 2021c, p. 54), makes considerable use of intermediaries as part of the greening process, so the research seeks to examine in greater detail the role of intermediary organisations in the presence of institutional ineffectiveness.

### **1.3. Rationale of the study**

The rationale for this study stems from four important considerations. First, SMEs are the cornerstone of Pakistan's economy (Government of Pakistan, 2019a) but they are also a major source of environmental pollution (Farooq, 2018, Noor et al., 2018, World Bank, 2019). It is exceedingly difficult to ignore the environmental implications of manufacturing activities, especially in current global challenges such as climate change. However, empirical discussion about what drives or obstructs SMEs from becoming environmentally friendly is yet not settled. For instance, some of the drivers of sustainable environmental practices in SMEs are a competitive advantage (Gandhi et al., 2018), regulative and normative pressures (Perez-Sanchez et al., 2003, Wahga et al., 2018b) and the belief of owner-managers (Collins et al., 2007) whereas factors such as complicated costs (Ghazilla et al., 2015), drain on profit (Revell and Blackburn, 2007) and lower capabilities (Wahga et al., 2018a) hamper SMEs in adopting the practices, but sometimes the same factor plays an opposite role in a different context. For instance, Brammer et al. (2012a) did not report legislative 'pressure' and 'incentives' as prominent drivers in small UK firms. Ortolano et al. (2014) found that in Pakistan's textile and leather sector, it is the size of the firm and its connection with international customers

that are correlated with sustainable practices: cleaner production, environmental management systems (EMS) such as ISO 14001. These differ among small, medium and large firms and their success or failure in becoming environment friendly makes a compelling argument for researching SMEs in different industry and country contexts.

Second, Pakistan's textile sector emits a considerably large volume of air, water and waste pollution (Farooq, 2018, Uddin, 2018, World Bank, 2019, p. 8). The sector, being export-oriented, faces huge pressure from international supply chains to comply with international environmental standards. Otherwise, they would lose their international customers. The large firms are better placed to take preventive and curative measures to minimise their environmental impacts, such as environmental, chemical, heat and energy management systems, eco-friendly technologies (air looms, digital printers) and end-of-pipe solutions, e.g., wastewater treatment plants, air scrubbers on chimneys, waste disposal mechanisms. SMEs, on the other hand, face difficulty in taking preventive and curative measures; therefore, they cause environmental degradation and adverse health impact on employees and residents in and around industrial clusters (Ortolano et al., 2014, Mehwish and Mustafa, 2016, Noor et al., 2018, Wadho and Chaudhry, 2018, Naqvi et al., 2020, Abbas and Halog, 2021). Since SMEs have a considerable share in textile processing, it is valuable to explore how state-legislated institutions, e.g., Environmental Protection Agency, Punjab (EPA Punjab), promote sustainable environmental practices in the sector.

Third, formal institutions might not always perform, thereby causing issues such as institutional voids and gaps (Mair and Marti, 2009, Amaeshi et al., 2016, Wahga et al., 2018b, Mumtaz, 2021). 'Institutional voids' refer to the absence of formal institutions that are specialised intermediaries, regulatory systems, and enforcement mechanisms to bring buyers and sellers together (Khanna and Palepu, 1997, Puffer et al., 2010), whereas 'institutional gaps' refer to the "varying degree to which institutions may be present or missing" (Kolk, 2014, p. 3). The voids and gaps hinder environmental governance at the national level and achieving of international targets. Therefore, informal institutions such as networks and intermediaries start working as a compensatory structure to address voids and/or gaps (Gliedt et al., 2018, Hasle and

Refslund, 2018, Kanda et al., 2019). In the context of Pakistan, environmental intermediaries are found to play a compensatory role in the leather and textile sector (Ortolano et al., 2014) by working to promote environmental behaviour in tanneries sector SMEs (Ortolano et al., 2014, Wahga et al., 2018b, Wahga et al., 2019). However, how such informal institutions emerge and what their effectiveness is in comparison with formal institutions are important questions to explore, especially in the context of developing countries because their formal institutions are usually weak and partially ineffective.

Fourth, in the purview of global initiatives for conserving the natural environment (e.g., UN SDGs, Circular Economy, Better Cotton Initiatives) and with this growing attention towards the greening of businesses, e.g., organisation of national and international stature working to promoting pro-environmental practices, this research is timely and a source of information for practitioners to understand how intermediary organisations are progressing along with formal institutions towards achieving sustainability targets.

The overarching aim of this study is to explore how informal institutions are promoting sustainable environmental changes in the manufacturing sector of a developing country which is dominated by SMEs. Specifically, the study intends to unpack two aspects. First, the emergence of proto-institutions which are ‘rules, practices, and technologies that are partially diffused and weakly entrenched but poised to become widely institutionalised’ (Lawrence et al., 2002, p. 283). Second, analyse the changes that proto-institutional sponsors (PI Sponsors) — a group of actors who initially create proto-institution (Zietsma and McKnight, 2009) have brought to SMEs dominated textile manufacturing sector of Pakistan.

#### **1.4. Research questions and objectives**

The overarching research question of this study is to explore how and why intermediaries emerge and evolve into proto-institution(s) to influence the pro-environmental transformation of SMEs in developing countries. Considering the background of the study, the context of the research, and the review of the extant

literature (Section 2.3), the overarching question has been divided into two research questions.

1. Why did proto-institutional sponsors emerge to advance sustainable environmental practices in Pakistan's textile manufacturing sector?
2. How do proto-institutions perform in promoting sustainable practices in Pakistan's textile manufacturers, compared to formal institutions?

The following research objectives were identified to allow the researcher to conduct comprehensive research to answer both research questions.

- a. To explore the underlying reasons that caused intermediaries to emerge to promote sustainable practices in Pakistan's textile sector.
- b. To explore how intermediaries evolved into sponsors of the informal institution (i.e., proto-institutional sponsors) promoting sustainable practices in Pakistan's textile manufacturers.
- c. To analyse the roles that proto-institutional sponsors play in advancing sustainable practices in Pakistan's textile manufacturing firms.
- d. To contrast the impact of proto-institutional sponsors with formal institutions in advancing sustainable practices in Pakistan's textile manufacturers.

### **1.5. Scope of the study**

This study is primarily focused on intermediary organisations in exploring their institutional roles in relation to the promotion of sustainable environmental practices in Pakistan's textile sector SMEs. In doing so, one of the areas of focus is to explore how intermediary organisations mediate to assume institutional roles. Though the focus of this study is restricted to SMEs, there are some instances where large businesses are also brought into the discussion. Because pilot study noted that intermediaries do not restrict themselves to specific sizes of businesses; rather, they work with small, medium and large businesses. For instance, the Cleaner Production Institute (CPI) and the National Textile University (NTU) work with large businesses as well as SMEs. Researcher expects that insights from this research work will be of value to academia, policy and practice. Moreover, this study will benefit stakeholders of sustainable manufacturing by

providing detailed information about promoting sustainability in the manufacturing sector of a developing country.

### **1.6. Contributions of the study**

This research contributes to the global debate on conserving the natural environment through responsible production. It brings empirical evidence from a developing country, Pakistan, where SMEs constitute most of a sector that is not dying any soon: the textiles. Particularly, this study contributes to the empirical literature on pro-environmental changes in SMEs which is otherwise context specific and difficult to generalise across contexts. As well as this study adds to the scant empirical literature on proto-institutions that is presently focused on large size organisations in the services sector of the developed world by documenting the emergence and roles of proto-institutions in promoting environmental sustainability in small and medium sized enterprises.

On the theoretical frontier, this study has extended ‘proto-institutions’ and ‘institutional work’ to an understudied context - sustainability in small and medium-sized businesses in developing countries while using New Institutional Theory (NIT) and Stakeholder Theory (ST) to deepen our theoretical understanding about how the proto-institutional work process unfolded in Pakistan. As ‘Institutional work’ refers to the purposive action of individuals and organisations aimed at creating, maintaining and disrupting institutions (Lawrence et al., 2009), this research has presented a detailed description of intermediaries who emerged through networking of stakeholders, e.g., textile manufacturers, business associations and organisations working for cleaner production to address institutional voids (Mair and Marti, 2009) and institutional gaps (Kolk, 2014), assumed roles of proto-institutional sponsors for creating new institutions. In the process of becoming proto-institutional sponsors, these intermediaries engaged in altering the existing meaning of production among owner-managers in favour of pro-environmental production. They changed the meaning and advocated for it through multiple activities in collaboration with stakeholders such as Pakistan Textile Exporters Association (PTEA) and the Faisalabad Chamber of Commerce and Industry (FCCI). The stakeholders not only helped intermediaries in accessing manufacturers but also in sourcing and exerting coercive isomorphic pressures on the manufacturers.

The insight, proto-institutions coexist with formal institutions to compensate for missing isomorphic pressures and support services that are necessary for firms to learn and practice environment friendly skills, can help policymakers in overcoming the double-pronged challenge: the weakness in formal institutions and the urgent need to address environment-degrading practices of manufacturers. The policy makers can either support proto-institutional work process, delegate some roles to the proto-institutions or formalise these coexisting proto-institutions into formal institutions.

### **1.7. Impact of the study**

The presentation of this study in the form of a thesis, journal articles, book chapters, conference papers and talks is expected to create an impact in the academic and non-academic world. In the academic world, it stimulates discussion on proto-institutions (PI) in the context of SMEs and a developing country context, both of which are underexplored in the extant literature. Therefore, this stimulus and future research directions encourage researchers to explore informal institutions in different contexts. In the non-academic world, this study impacts stakeholders concerning environmental governance in the manufacturing sector. It presents perspectives of textile manufacturers and business associations across public and private sector organisations concerning pro-environmental changes in manufacturing concerns. The Ministry of Climate Change (MoCC) and provincial Environmental Protection Departments (EPDs) present their perspective on SMEs' progress towards sustainable environmental practices and the support they receive from private sector organisations. Similarly, private sector organisations such as the CPI, the World Wide Fund For Nature (WWF-Pak) and international organisations such as the German Bilateral Development Organisation (GIZ) and United States Agency for International Development (USAID) present their experience with promoting pro-environmental practices in textile manufacturing firms. A comparative analysis of formal and informal institutions in greening businesses provides insights into relevant policy circles. Overall, such a flow of information would also strengthen collaborations among stakeholders for advancing sustainable practices in textile firms.

## **1.8. Structure and outline of the thesis**

This research study comprises seven chapters. The ongoing Chapter 1 presented the background and contextual settings before it set out the overarching aim, research questions and research objectives of this study. It sheds light on the contributions and impacts of this study. Chapter 2 critically reviews the literature covering three areas: sustainable practices in firms, roles of intermediary organisations and proto-institutions. The review teases out literature gaps and synthesises the debate covering three areas. It then develops two research questions that are contextualised in Pakistan's textile sector.

Chapter 3 presents the contextual settings of this research. It starts with an overview of Pakistan's textile sector and continues to present its environmental implications. It then reviews existing manufacturing practices in the sector, followed by an analysis of state-legislated formal institutions responsible for promoting environmental standards in the sector. Before it concludes, it briefly refers to the issues in formal institutions and the responses from intermediary organisations. Chapter 4 underpins the research philosophy, presents a theoretical framework and outlines the research methodology of this study. The theoretical framework combines New Institutional Theory (NIT) and Stakeholder Theory (ST) that underpins data analysis presented in the next two chapters. The research methodology outlines the research philosophy, research design, data collection and analysis, fieldwork challenges and ethical considerations. It concludes with a discussion of this empirical work's limitations and quality assurance.

Chapters 5 and 6 present a descriptive and analytical analysis of the emergence of proto-institutional sponsors and their impacts, respectively. Chapter 7 summarises the findings of this study in connection with the extant literature and presents contributions and reports on the relevance of the findings with academia, industry and policy work. It concludes with future areas for research.



## Chapter 2 Literature review

This chapter presents a critical review of the extant literature on sustainable practices in SMEs, intermediary organisations and proto-institutions. A particular emphasis is placed on the links between these three areas to assess the existing state of knowledge and to identify research gaps. The chapter starts with working definitions of ‘sustainable practices’, ‘intermediaries’, and ‘proto-institutions’ and moves on to present steps that were followed in this systematic review. Findings are reported in Section 2.3, and a synthesis is developed in Section 2.4. This chapter concludes with developing of research questions for this study and a summary of the chapter.

### 2.1. Understanding key concepts

This section presents working definitions of the three terms central to this research work. For example, the term ‘sustainability’ is used in multiple dimensions such as values, behaviours, and practices that could potentially confuse readers unless clarified. With this aim, the operational definitions of these terms are as follows.

#### 2.1.1. Sustainable practices

The term ‘Sustainable practices’ term is widely used in the literature (Sarango-Lalangui et al., 2018, Wahga et al., 2018b, Naqvi et al., 2020), but it does not have an agreed definition (Islam et al., 2020). A common conceptualisation of this term is “those organisational activities or operations that support triple bottom line principles<sup>5</sup> of sustainability” (Islam et al., 2020, p. 335, Okai-Mensah et al., 2022). Sustainable practices distinguish from related terms: values and behaviours in the sense that ‘values’ are researched at multiple levels ranging from individual to national (e.g., Schaefer et al. (2020) owner-manager value of achievement and benevolence could inform his decision about environmental engagements). The term ‘practices’ relates to organisation-level

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<sup>5</sup> Triple bottom line consists of three Ps: profit, people, and planet, by which companies should assess their bottom lines. Profit is the traditional bottom line of finances within corporations. However, in addition to profit, triple-bottom-line businesses also measure their performance in terms of social (people) and environmental (planet) responsibility. Therefore, the triple bottom line is a holistic assessment of a company’s economic, social, and environmental performance. See Hiller Connell, K. Y. and Kozar, J. M. (2017) 'Introduction to special issue on sustainability and the triple bottom line within the global clothing and textiles industry', *Fashion and Textiles*, 4(1), pp. 16.

activities or operations (Hoogendoorn et al., 2015, Wahga et al., 2018b, Naqvi et al., 2020), whereas ‘behaviour’ usually looks at the individual level (Rivera, 2004, Liu et al., 2019). Therefore, this study conceptualises Islam et al. (2020) conceptualisation of sustainable environmental practices – the activities and operations that concern sustainability at the organisational level.

### **2.1.2. Intermediaries**

Intermediaries are defined as ‘actors who link two or more parties to bring about activities’ (Dutt et al., 2016). There are three components in this definition: actors, links and activities. Actors are individuals, groups or organisations who purposefully engage in activities that are best suited to their interests (Khan et al., 2007, Mair and Marti, 2009, Ortolano et al., 2014, Wahga et al., 2018b). Actors tend to establish links with relevant stakeholders to bring about desired changes (e.g. Lawrence et al., 2002, Zietsma and McKnight, 2009, Gómez and Atun, 2013). They focus on changing field-level practices by altering the already existing field level logic or introducing a new one. For example, actors tend to collaborate with customers, environmental authorities, suppliers, NGOs and other stakeholders to transform the existing manufacturing practices into sustainable environmental practices (e.g. Klewitz and Hansen, 2014, Gliedt et al., 2018, Kanda et al., 2018, Wahga et al., 2018b). The resultant of intermediaries’ actions can be a non-institutional supportive role like information disbursement, knowledge creation, consultancies, or a proto-institutional role that attempts to change the institutional logic.

### **2.1.3. Proto-institutions**

Lawrence et al. (2002) introduced the term ‘proto-institutions’, which refers to ‘likely to be’ institutions. Proto-institutions are defined as ‘practices, technologies, and rules that are narrowly diffused and only weakly entrenched, but that have the potential to become widely institutionalised’ (Lawrence et al., 2002 p. 283). These proto institutions (PI) become institutionalised when they are entrenched and diffused throughout an institutional field. An institutional field is ‘a recognised area of institutional life – organisations that in the aggregate constitute an area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that

produce similar services or products' (DiMaggio and Powell, 1983, p. 148). Put simply, institutional field is composed of 'a number of organisations which share institutionalised rules and resources (Phillips et al., 2000, p. 29). For instance, the institutional field of the textile sector includes a network of organizations, regulations, norms, and practices that govern the production, distribution, and consumption of textiles. The field includes textile manufacturers, suppliers, retailers, trade associations, and regulatory bodies, among others. These institutions establish rules, standards, and expectations for factors such as quality control, sustainability practices and product safety. Consequently, these institutional factors significantly influence textile organizations' behaviours, strategies, and decisions.

Proto-institutions diffuse and entrench in an institutional field through actors who undertake institutional work – the purposive action of individuals and organisations aimed at creating, maintaining and disrupting institutions (Lawrence et al., 2009). Consider there comes a change in either rules, practices or technology relating to the dying industry, and some of the firms in the field adopt that change. Now if that change becomes popular in the field, it will start becoming a norm in the dying industry, which will further improve the likeliness of change to diffuse and entrench in the institutional field and become institutionalised. The reflexive actions of actors in the institutional field aimed at creating, maintaining or disrupting institutions are termed 'institutional work', a process further discussed in Subsection 4.1.1.

## **2.2. Methodology of the literature review**

This study has used the systematic literature review method, a process of collecting different dimensions of already researched areas in a way that facilitates theoretical development in the extant literature and the identification of gaps for further research (Klewitz and Hansen, 2014, Watson et al., 2018, Kivimaa et al., 2019). The methodology comprised five steps that are detailed below.

### **Step 1**

The search for literature started by identifying major keywords in the research questions by looking for similar words/terms (like similar terms for SMEs were small firms, medium

firms, small and medium firms). At first, the author found three main keywords, which were increased to a total of sixteen during the interactive search process. All keywords were then arranged under three clusters that were SMEs, sustainability and institutions. Various search strings were developed through Boolean logic, wild card, truncation, and proximity operators to refine the search outcomes (Table 2.1Table 2.1).

**Table 2.1 Search keywords and evaluation criteria**

<b>Keywords</b>		
<b>Sustainability</b>	<b>SMEs</b>	<b>Institutions</b>
'green', 'enviro*', 'sustainab*', 'CSR', 'eco'	'small firms', 'medium size* firms', 'organi\$ation*', 'SME*', 'small and medium sized*'	'*institution', 'informal\$institutions', 'proto\$institutions', 'intermediary', 'support organi\$ation', 'boundary spanner', 'middle actor'
<b>Search string example:</b>  ("Informal\$institutions" OR "proto\$institutions" OR "Intermediary" OR "Support organi\$ation" OR "boundary spanner" OR "middle actor" OR "hybrid actors") AND ("Small firms" OR "Medium Size* Firms" OR "Organi\$ation*" OR "SME*" OR "Small and Medium Sized*") AND ("green" OR "enviro*" OR "Sustainab*" OR "CSR" OR "eco") W/50		
<b>Databases</b>		
SCOPUS, Science Direct, EBSCO, Emerald, Wiley Online Library, JSTOR, SAGE Journals and Google Scholar		
<b>Inclusion criteria</b>		<b>Exclusion criteria</b>
<ul style="list-style-type: none"> <li>• Peer-reviewed publications</li> <li>• Publications before October 2022</li> <li>• Developed and developing world literature</li> <li>• Qualitative, quantitative, and mixed methods studies</li> <li>• Role of institutions in SMEs</li> <li>• Environmental dimension of sustainability</li> </ul>		<ul style="list-style-type: none"> <li>• Studies carried out in languages other than English</li> <li>• Studies without focus on institutions, SMEs, or environmental aspects of sustainability</li> </ul>

Source: Author's formation

Initially, a large number of studies were returned in the structured search process; therefore, researcher used at least one keyword from each cluster in his search strings to refine the search results. The motivation was to explore the intersection between the literature on sustainability, institutions and SMEs while exploring the role of proto-institutions. The researcher does not claim to have covered all dimensions of sustainability, SMEs and PI in this review.

## **Step 2**

Following the tradition in literature review studies (e.g. Klewitz and Hansen, 2014), only peer-reviewed publications were included in the review to maintain the size and quality of the sample. The starting point for the search was kept open to cover and include relevant material. The search ended in October 2019, but researcher continued to search new literature over time to cover the debate. The search for the literature was conducted in major databases (Table 2.1). Although individual databases (e.g., Science Direct) are part of larger datasets – SCOPUS, the search in both databases was done due to possible delays in immediate updates of recent publications in the larger datasets (Kivimaa et al., 2019). The usage of these multiple databases helped in covering the cross-disciplinary dimensions of the research question. As search syntax differs across databases, the search strings were customised to relevant databases while ensuring the inclusion of keywords from every cluster.

## **Step 3**

The selection of samples for the review was completed by ascertaining the relevance of studies through their topic, abstract and keywords. At first, those studies were excluded that did not cover all three dimensions of the research questions or had used key terms in different dimensions like CSR in large firm context, institutions in economic or political contexts and sustainability in non-environmental contexts. After excluding irrelevant studies, new studies were manually added to the sample because such studies did not appear in the search process but were identified by following the citations within major studies. Two conference papers: Berrone et al. (2008) and Wahga et al. (2019), one symposium paper: Adler and Gersch (2015) and a working paper: Boxenbaum (2004), were found important and related to this research; therefore, those were also included in the review process.

## **Steps 4**

In this step, thematic analysis of sample studies was carried out by reading, interpreting, and finally classifying studies into different themes. Similar themes were linked together to synthesise debate on intermediaries, proto-institution, institutional work and

sustainable practices in SMEs. Moreover, the gaps in the extant literature were also identified for future research.

### **2.3. Findings of the review**

The structured search process adopted for this review returned a diverse range of studies that concern sustainable practices in SMEs, intermediaries impacting the sustainability agenda and the literature relating to institutions such as voids and gaps, institutional work and proto-institutions. These studies are analysed in depth to tease out major themes. Subsection 2.3.1 analyses and discusses the findings from the thematic analysis and reports gaps in the literature.

#### **2.3.1. Sustainable environmental practices in SMEs**

The literature on sustainability practices in SMEs has two broad and closely-related themes. The first theme examines businesses that already engage in sustainable practices and eco-innovation, including those categorised as green start-up ventures and ecopreneurs. The second includes a large number of studies that are often based on surveys and use the 'drivers' and 'barriers' framework to identify the main factors affecting the adoption of sustainable practices in SMEs.

##### **2.3.1.1 Pro-environmental businesses and 'ecopreneurs'**

Ecopreneurship is the process of entrepreneurship to create businesses that solve environmental problems or operate sustainability. Ecopreneurs focus on both: profit and the natural environment, and they tend to build a green business world (Piwowar-Sulej et al., 2021). Green startups – “new or emerging commercial enterprises or ventures which are established with the primary aim of mitigating environmental impacts” (Blundel and Hampton, 2021, Tiba et al., 2021), environmental entrepreneurship (Hockerts and Wüstenhagen, 2010, Antolin-Lopez et al., 2019) and the sustainability-oriented innovations (Klewitz and Hansen, 2014, Adams et al., 2016) are empirical evidence of businesses established to undertake economic activity but with reduced environmental impacts. The triple bottom line literature (Seuring and Müller, 2008, Hansen et al., 2011, Klewicz and Hansen, 2014) and the literature around circular economy practices (Tura et al., 2019) are further evidence of environment friendly

businesses. Yet another advancement relates to the sustainable business model in SMEs that use CSR, circular economy and stakeholders simultaneously (Matinaro et al., 2019).

Eco-innovation – new or significantly improved product, process, organisational change or marketing solution that make efficient use of natural resources inputs and decreases the release of harmful substances across the life cycle of the product (Triguero et al., 2013, Díaz-García et al., 2015). Eco-innovation is of three types: product, process and organisation, of which eco-innovations in processes (reducing inputs for producing goods and services) are researched more often (Klewitz et al., 2012). Eco-innovation in manufacturing SMEs is critical to the values and commitment of owner-manager, the pressure of customers, financial conditions and cooperation with universities, research institutions, and external grants (de Jesus Pacheco et al., 2017). From the perspective of multiple levels, the vision and concern of owner-managers at the micro-level, pressure groups and networks at the meso level and regional context at the macro-level are factors critical to eco-innovation (Díaz-García et al., 2015). Also, public sector intermediaries can support eco-innovation in SMEs which usually have a lower capacity to absorb external impulses and transform them into innovations (Klewitz et al., 2012). Both public and private sector intermediaries could work at multiple levels to provide support to SMEs for pro-environmental changes in practices (Klewitz et al., 2012, Klewitz and Hansen, 2014, Ortolano et al., 2014, Wahga et al., 2018b).

The circular economy and sustainable business models are gaining traction. These concepts overlap with approaches like cleaner production and industrial ecology (Schroeder et al., 2019) and sustainability (Geissdoerfer et al., 2017). Circular economy practices create value by minimal use of energy and natural resources and by reducing waste through the adoption of practices including repair, reuse, refurbishment, waste prevention, waste recycling, eco-design, and remanufacturing practices (Geissdoerfer et al., 2017). For instance, Tura et al. (2019) documented that institutions in circular economy business models work in both ways; as drivers (direction laws for processing toxic waste and supportive taxation for recycling) and barriers (complex and overlapping, lack of support from the government, lower knowledge of political decision-makers about circular economy). It shows that the literature on environmental

practice is diverse despite being context and industry specific. Overall, it shows that some of the SMEs do adopt sustainable practices and it is important to understand the reasons for such a variation among SMEs.

### **2.3.1.2 Drivers and barriers to sustainable practices in SMEs**

The second theme in this literature addresses the question: what makes some SMEs adopt sustainable practices, whereas others fail to do so? Most studies have adopted the drivers and barriers framework to isolate particular factors affecting environment friendly changes in SMEs (Walker et al., 2008, Ghazilla et al., 2015, Tura et al., 2019). Below are the economic and non-economic factors that drive pro-environmental changes in SMEs (Table 2.2)

#### ***Drivers of sustainable practices in SMEs***

SMEs adopt sustainable practices to reap higher profits (Williams and Schaefer, 2013, Bhanot et al., 2015), lower their cost of production (Ortolano et al., 2014, Okai-Mensah et al., 2022) and take incentives: award schemes and consulting services (Studer et al., 2006). Alongside, the non-economic factors also drive sustainability drive in SMEs. For example, the manager's commitment, the fusion of personal value with business opportunity (Williams and Schaefer, 2013), religious and cultural values (Abdelzaher and Abdelzaher, 2017) and commitment to corporate ethics (Studer et al., 2006) have been driving environment friendly changes in SMEs. Similarly, manager's level of (formal and informal) education (Wahga et al., 2018a), vision to invest in technology and innovation (Bhanot et al., 2015), and the capability and resources available also help SMEs adopt sustainable practices (Islam et al., 2020).

External factors such as pressure from customers (Hillary, 2004), stakeholders (Bhanot et al., 2015) and regulations (Ortolano et al., 2014, Wahga et al., 2018a, Wahga et al., 2018b) have driven SMEs towards sustainable practices. The isomorphic pressures that force firms to resemble other units that face similar sets of environmental conditions (DiMaggio and Powell, 1983) arise from coercive, normative and mimetic pillars of the institutions, promote sustainable environmental changes in firms (Bansal and Roth, 2000, Bansal, 2005, Ortolano et al., 2014, Wahga et al., 2018b). For instance, Wahga et



al. (2018b) documented isomorphic pressure accruing from state regulation in tandem with peers and business associations to promote sustainable practices in Pakistan's leather sector SMEs.

**Table 2.2 Drivers of sustainable practices in SMEs**

<b>Economic drivers</b>	
Profitability	(Thorpe and Prakash-Mani, 2003, Hillary, 2004, Collins et al., 2007, Wahga et al., 2018a)
Cost reduction	(Hillary, 2004, Studer et al., 2006, Williamson et al., 2006, Wilson et al., 2012, Ortolano et al., 2014)
Competitiveness	(Simpson et al., 2004, Bhanot et al., 2015, Ghazilla et al., 2015, Wahga et al., 2018b)
Product quality and efficient production	(Hillary, 2004, Millar and Russell, 2011, Ghazilla et al., 2015, Gandhi et al., 2018)
Revenues and reputation	(Thorpe and Prakash-Mani, 2003, Ghazilla et al., 2015, Gandhi et al., 2018, Sarango-Lalangui et al., 2018)
Innovation and technology	(Bhanot et al., 2015, de Jesus Pacheco et al., 2017, Martinez-Conesa et al., 2017)
Business/financial support	(Hillary, 2004, Brammer et al., 2012a, Moorthy et al., 2012, Oxborrow and Brindley, 2013, Hoogendoorn et al., 2015, de Jesus Pacheco et al., 2017)
<b>Non-Economic drivers</b>	
Vision of owner-manager	(Hemingway and MacLagan, 2004, Cambra-Fierro et al., 2008, Cordano et al., 2010, Sampaio et al., 2012)
Inclination of owner-manager	(Hammann et al., 2009, Battisti and Perry, 2011, Ghazilla et al., 2015, Hamann et al., 2017)
Beliefs and value of senior managers	(Collins et al., 2007, Abdelzaher and Abdelzaher, 2017, Gandhi et al., 2018, Sarango-Lalangui et al., 2018)
Education level of owner-manager	(Salimath and Cullen, 2010, Ortolano et al., 2014, Wahga et al., 2018a, Wahga et al., 2018b)
Awareness, information and knowledge	(Tilley, 1999, Schaper, 2002, Moorthy et al., 2012, de Jesus Pacheco et al., 2017, Goworek et al., 2020)
Support from intermediaries	(Battaglia et al., 2010, Millar and Russell, 2011, Gliedt et al., 2018, Wahga et al., 2018b, Kivimaa et al., 2019)
Pressure from customers and suppliers	(Perez-Sanchez et al., 2003, Gadenne et al., 2009, Moorthy et al., 2012, Ortolano et al., 2014, Bhanot et al., 2015, Ghazilla et al., 2015, Dasanayaka et al., 2022)
Isomorphic pressures	(Bansal and Roth, 2000, Delmas and Toffel, 2004, Rivera, 2004, Bansal, 2005, Wahga et al., 2018b, Dasanayaka et al., 2022)
Environmental regulation and policies	(Patton and Worthington, 2003, Studer et al., 2006, Brammer et al., 2012a, Blundel et al., 2013, Ortolano et al., 2014, Dasanayaka et al., 2022)

Source: Author's compilation

Hoffman (1999) documented isomorphic normative pressures accruing from peers' pressure and embarrassment of being non-compliant with an environment friendly

attitude in the US Chemical industry; Rivera (2004) detected coercive isomorphic pressures from environmental authorities and normative from industry associations in promoting sustainability in developing country context. Other evidence of external pressure on firms includes pressure to become pro-environmental (Williamson et al., 2006), pressure from international NGOs (Van Huijstee and Glasbergen, 2008, Stekelorum et al., 2019); stakeholders and institutions (Eweje, 2006, Amaeshi et al., 2016, Lee et al., 2017, Wahga et al., 2018a). Overall, the top three factors: profitability, competitiveness and firm's reputation have been similar in review studies covering SMEs and sustainable practices in diverse sectors and country contexts (Studer et al., 2006, Parker et al., 2009, Ghazilla et al., 2015, Dasanayaka et al., 2022).

### ***Barriers to sustainable practices in SMEs***

Environmentally friendly changes in SMEs are constrained by both economic and non-economic factors, as shown in Table 2.3. The economic constraining factors include financial constraints (Revell et al., 2010), the complex cost attached to adopting sustainable practices (Bhanot et al., 2015), few opportunities to sustain comparative advantage (Simpson et al., 2004) and uncertainty about benefits accruing from environmental management system (EMS) (Hillary, 2004).

An enterprise's size also affects its diffusion of sustainability. Because small and medium-sized businesses tend to purchase fewer materials than large corporations, it is difficult for them to obligate their suppliers to follow sustainable practices. SMEs' lack of staff and time resources also makes it difficult for them to take on sustainability initiatives (Oxborrow and Brindley, 2013). The non-economic factors impeding environment friendly changes in SMEs are poor awareness of compliance issues (Del Brìo and Junquera, 2003, Wilson et al., 2012), lack of skills and training relating to pro-environmental changes (Wahga et al., 2018a) and low level of information available to SMEs (Schaper, 2002, Bhanot et al., 2015).

Lack of capacity and training to interact with stakeholders (Del Brìo and Junquera, 2003), thinking of low responsibility for the natural environment (Revell and Rutherford, 2003), not considering environmental care as a legal requirement or requirement of

customers (Lawrence et al., 2006, Studer et al., 2006) and absence of consumer pressure (Hillary, 2004, Jacobsen et al., 2020) are also important factors reported in extant literature that constrain pro-environmental changes in SMEs. The study by Parker et al. (2009) noted that SMEs have limited resources, limited knowledge and limited capabilities, which constrain them to adopt interventions aimed at environmental improvements in SMEs.

**Table 2.3 Barriers to promoting sustainable practices in SMEs**

<b>Economic Barriers</b>	
Complicated cost structure	(Hillary, 2004, Simpson et al., 2004, Lawrence et al., 2006, Wilson et al., 2012, Ghazilla et al., 2015)
Drain on profit	(Simpson et al., 2004, Revell and Blackburn, 2007, Bhanot et al., 2015)
Lack of financial resource	(Tilley, 1999, Simpson et al., 2004, Studer et al., 2006, Revell and Blackburn, 2007, Ghazilla et al., 2015, Dasanayaka et al., 2022)
Size of firm	(Lawrence et al., 2006, Brammer et al., 2012a, Oxborrow and Brindley, 2013, Ortolano et al., 2014, Hoogendoorn et al., 2015, Hensel, 2018)
Deficiency in capabilities	(Hillary, 2004, Lawrence et al., 2006, Ghazilla et al., 2015)
<b>Non-economic Barriers</b>	
Lack of knowledge and awareness	(Lee, 2009, Millar and Russell, 2011, Bhanot et al., 2015, Ghazilla et al., 2015)
Differences in the context of practices	(Hillary, 2004, Hoogendoorn et al., 2015, Hensel, 2018)
Lack of awareness among customers	(Tilley, 1999, Del Brío and Junquera, 2003, Wilson et al., 2012, Bhanot et al., 2015)
Weak governance structure: lower regulatory pressure and out-of-date legislation	(Hillary, 2004, Brammer et al., 2012a, Ortolano et al., 2014, Samad et al., 2015, Alam, 2018, Sial et al., 2018, Goworek et al., 2020, Abbas and Halog, 2021)
Weak organisational structure	(Hillary, 2004, Bhanot et al., 2015, Ghazilla et al., 2015)
Minimum support for business	(Tilley, 1999, Hillary, 2004, Brammer et al., 2012a, Lewis et al., 2015)
My business is 'non-pollutant.'	(Revell and Rutherford, 2003, Hillary, 2004, Lawrence et al., 2006, Studer et al., 2006, Revell and Blackburn, 2007, Klewitz et al., 2012)

Source: Author's compilation

A review of the sustainable entrepreneurship literature by Rosário et al. (2022) concluded that existing institutional structures promote unsustainable businesses, whereas their focus should be on promoting sustainable alternatives. Similarly, issues with formal institutions are also an important factor that constrains pro-environmental

changes in SMEs (Hillary, 2004, Ortolano et al., 2014, Wahga et al., 2018b). It is further noted that internal barriers are more significant at the start of adopting changes because of the gap in attitude towards pro-environment changes and actual performance and inconsistent support from management, while human resource constraints, cost of certifications and poor advice from consultants are constraining factors during the process of change in SMEs (Hillary, 2004, Dasanayaka et al., 2022).

In summary, major hurdles documented in review papers are inadequate support structures, lack of R&D, voluntary regulation and standardisation, and insufficient financial support (Parker et al., 2009, Santos, 2011, Ghazilla et al., 2015, Dasanayaka et al., 2022).

***Grey area: driver or barrier***

The empirical literature suggests that the driving and constraining factors vary across industries and contexts. A large volume of studies on drivers of and barriers to pro-environmental changes in SMEs exists, but still, there is an ambiguity in construing a factor either as a driver or a barrier. For instance, net profitability from adopting sustainable practices remains uncertain (Revell and Rutherford, 2003, Parker et al., 2009); regulations do not necessarily enhance environmental compliance (Brammer et al., 2012a, Ortolano et al., 2014); or favourable mindset of owner-manager may not always prove helpful in advancing sustainable practices (Schaper, 2002). The type of industry to which SMEs belongs is also a critical factor. E.g., SMEs in the services sector adopt sustainable practices more than those in the manufacturing sector (Uhlener et al., 2012, Hoogendoorn et al., 2015). Using a comparison between researchers' and industry professionals' viewpoints about critical drivers and barriers to sustainable manufacturing in small and medium-sized enterprises, Bhanot et al. (2015) attempted to resolve this tension. Both researchers and industry professionals agree that market pressures and expected decreases in production costs are the drivers and owners-managers' lack of awareness of green practices are the barriers to sustainable manufacturing. However, the scope of this study is restricted to India only. Therefore, it is argued that the empirical evidence about drivers and barriers is mixed.

The mixed evidence could be attributed to the driver and barrier framework. This framework has been critiqued for being survey-based and context specificity (Tura et al., 2019, Blundel and Hampton, 2021). In survey-based studies, respondents pick and choose from a given list instead of sharing their insights. And the context specificity of these studies renders it difficult to generalise them across sectors and contexts. For example, Schaper (2002, p. 245) noted that Australian SMEs are heterogeneous, and each context has its own set of regulations and issues; therefore, extra care is needed to replicate the findings of his study to SMEs in other industries and contexts. Yet another issue could be the application of a “one-size-fits-all” macro-level framework such as the UN SDGs because that framework is prone to cause heterogeneous impacts when applied at the micro-level. For instance, the Danish firms who were at the initial level of learning about sustainability, developed a common language of sustainability among and across alike firms, whereas the framework caused tension for the born sustainable firms who suspected the application as a way of impression management–greenwashing (Jacobsen et al., 2020).

It is also important to note that the design of pro-environment policies and how well those policies are integrated with stakeholders also impact sustainability in SMEs (Blundel et al., 2013, Wahga et al., 2019) because, in some instances, SMEs have collaborated with stakeholders to build, integrate and reconfigure their internal and external competencies to improve their capabilities of responding to environmental changes (Teece et al., 1997, Eccles et al., 2014, Watson et al., 2018, Widya-Hasuti et al., 2018) but in other instances, firms were not ready to interact. Usually, these are only proactive SMEs that collaborate with stakeholders to improve their pro-environmental practices and technologies (Klewitz and Hansen, 2014). This further strengthens the value of forging a strong connection between policy designers, firms and sustainability stakeholders to bring passive firms towards sustainable environmental practices. Furthermore, even in developed country as the UK, the potential of eco-innovation and green startups to help progress towards net zero requires system-level innovation in collaborations with intermediaries and a strong network of government, academia and the private sector (Blundel and Hampton, 2021).

### **2.3.1.3 Stakeholders role in promoting sustainable practices**

Stakeholders play a crucial role in promoting sustainable practices within firms. According to Klewitz and Hansen (2014), stakeholder-SME interactions drive sustainable innovation by providing valuable knowledge and skills to SMEs. This enables SMEs to incorporate sustainability principles into their practices, such as sustainable product development, eco-friendly process improvement, and implementing sustainable organizational strategies. By actively engaging with stakeholders, SMEs enhance their capacity to foster sustainable practices and contribute to a more sustainable future.

Stakeholders also influence firms to adopt certain practices. Lee et al. (2017) found that stakeholders, including customers, government entities, and regulatory authorities, exert pressures that drive social responsibility practices within the supply chains of South Korean SMEs. Non-compliance with these pressures poses risks to SMEs' reputations and operations, motivating them to reactively respond and incorporate socially responsible practices. Similarly, Delmas and Toffel (2004) identified stakeholders, such as governments, regulators, customers, competitors, and environmental organizations, exerting coercive and normative pressures on firms to adopt environmental management practices beyond regulatory compliance. However, the response to these pressures depends on the organization's structure, competitive position, history of environmental performance, and firm-specific factors. Rodríguez-Espíndola et al. (2022) noted that government support and customer pressure to adopt circular economy practices have been driving sustainability in Mexican SMEs.

Furthermore, stakeholders can play a role in initiating sustainability-related policies for SMEs. Permatasari and Gunawan (2023) observed that stakeholders could contribute to developing policies that encourage or support SMEs in adopting sustainable reporting. The absence of such policies hampers the adoption of sustainable practices in SMEs. Stakeholders can stimulate the adoption of sustainability reporting and promote sustainable behaviours within SMEs by demanding the implementation of specific practices. Compliance with these demands becomes crucial for SMEs to gain and maintain stakeholder support, enhance their competitiveness, and ensure adherence to sustainability regulations. Therefore, stakeholders are critical to promoting sustainable

practices in firms, and their engagement drives sustainable innovation and the adoption of sustainability principles in SMEs.

#### **2.3.1.4 Summary of the theme**

The literature on pro-environmental businesses is gaining traction. Developments such as green startups, circular economy practices and variants of eco-innovation are particularly focused on environment friendly products, processes and solutions, but their empirical evidence is largely concentrated in the European context, a gap in the literature. The extant literature has been exploring why some SMEs succeed in adopting sustainable practices whereas others do not (e.g. Hillary, 2004, Ortolano et al., 2014, Wahga et al., 2018b), but that is varied and sometimes contradictory. For instance, it is difficult to ascertain whether regulatory pressure, the owner-manager mindset and voluntarism always drive sustainable practices in SMEs. It could be that environmental practices are context specific (Millar and Russell, 2011, Hoogendoorn et al., 2015) or because of empirical, conceptual and practice limitations of the ‘drivers’ and ‘barriers’ framework popular among these studies. Also, there is great potential in understanding sustainable practices in tandem with institutional intermediaries, especially in the developing world context, but that has been relatively under-discussed. Therefore, these gaps in the literature could be addressed, at least in part, by exploring SMEs in different industry and country contexts.

#### **2.3.2. Intermediaries and SMEs**

Intermediaries are ‘actors who link two or more parties to bring about activities’ (Dutt et al., 2016). Intermediary organisations<sup>6</sup> play an active role in the field of business support, e.g., creating a knowledge base of firms (Watkins et al., 2015), helping them build collaborative assets (Ortolano et al., 2014) and connecting their outputs to relevant stakeholders. These organisations tend to forge horizontal and vertical networks to promote sustainable environmental practices (Wahga et al., 2018b, Islam et al., 2020), sustainability-oriented innovations (Klewitz and Hansen, 2014, Adams et

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<sup>6</sup> Sector-level organisations include business associations and public and private sector support organisations. National-level and international-level organisations include non-governmental organisations, not-for-profit organisations, and bilateral and multilateral development organisations.

al., 2016) and eco-innovation (Kanda et al., 2018, Blundel and Hampton, 2021). This broad spectrum of intermediaries' roles may explain the possible difficulty in defining intermediaries. A fairly comprehensive definition could be 'actors who engage in creating opportunities and space for others, building networks and mediating between individuals and things' (Martiskainen and Kivimaa, 2018), but it does not explicitly reflect intermediaries' institutional role.

#### **2.3.2.1 Structure and working of intermediaries**

The structure and working of intermediaries differ significantly from each other (Polzin et al., 2016, Hasle and Refslund, 2018, Mignon and Kanda, 2018). The working of intermediaries differs because of various factors that include the specificity of the country context and institutions within (Polzin et al. 2016); nature and source of funding (Mignon and Kanda, 2018); scope of action and target audience (Mignon and Kanda, 2018); the ownership structure of intermediaries (Ramirez et al., 2018) and aim of intermediary organisations (Battaglia et al., 2010, Kanda et al., 2018). These multiple factors are found to affect the performance of intermediaries. For instance, the National Cleaner Production Center (an intermediary) in Pakistan was unable to achieve its targets relating to the diffusion of environmental management practices and cleaner production practices in targeted firms because the international funding agency discontinued its funding (Wahga et al., 2019). The review has shown that intermediaries engage in various roles at different levels and therefore are of various types (Table 2.4), and they belong to the public and private sectors both, where they play roles in sustainable transition, sustainable transformation and activities like ensuring health and safety, among others. This shows that intermediaries engage in diverse roles in public and non-public spheres while acting at micro, meso and macro levels. In addition, they have the potential to impact processes at various levels. The following is a detailed account of roles played by intermediary organisations at various levels.

#### **2.3.2.2 Roles of intermediaries**

Intermediaries engage in a variety of roles impacting firms at multiple levels; however, this review has focused on the role of intermediaries in promoting environment friendly changes in SMEs. The preliminary search for literature returned a thin number of studies



covering intermediaries, SMEs and sustainable practices; therefore, the term “SMEs” was dropped to understand the overall debate at first and then narrowed down to the literature covering the role of intermediaries with respect to SMEs. There seems to be greater use of non-profit intermediaries in developing economies, and often these are large NGOs who play roles such as diffusing knowledge, providing motivation and advice and sourcing an external impulse to help firms of various industries become environmentally responsible (Ali and Frynas, 2018, Wahga et al., 2018b). And as noted by Kanda et al. (2018), intermediaries hold an important position in the eco-innovation literature. They play diverse roles which can be broadly categorised into supportive and institutional roles and are discussed in this section and the section relating to proto-institutions.

**Table 2.4 Types and role of intermediaries**

Types	Role
<b>Policy design for sustainability transition</b> Source: Mignon and Kanda (2018)	
Public sector	Ensure the effectiveness and longevity of intermediation
Private sector	Ensure the effectiveness and longevity of intermediation
Actor level	Support to individual organisations, bodies, projects
System level	Support at the institution level and cluster level
Demand side	Support in adoption and diffusion of environmental innovations
Supply side	Support in innovation development activities
<b>Sustainable transformative</b> Source: Kivimaa et al. (2019)	
Niche	Mediate between local and aggregation levels to pursue sustainability goals
User	Mediate between dominant configuration and niche technology for sustainability
Process	Implement the context of specific priorities by mediating the process of transition
Systematic	Mediate between various actors at the system level to pursue sustainability goals
Transition	Mediate between system-level actors to dominate regime-level actors for sustainability goals
<b>Occupational health and safety</b> Source: Hasle and Refslund (2018)	
Regulator	Assist government inspectors to drive adoption of health and safety of employees
Advisor	Provide advisory service to the firm on how to observe health and safety protocol
Social	Assist or form unions, associations and other bodies for the health and safety standards
Other	Intermediate as suppliers and NGOs to ensure health and safety standards
<b>Assisting government</b> Source: Eberhart and Eesley (2018)	
Institutional	Assist government to achieve objectives and build networks between parties for accessing resources, to exert normative pressures on firms to change their behaviours and act as an incubator, development organisation and accelerator

Source: Author’s formulation based on cited within the table

The effectiveness of intermediaries' role depends on the skilfulness of intermediaries to understand problems and the successful diffusion of solutions (Clarke and Ramirez, 2014), the internal values of the intermediary and the longevity of the intermediary (De Silva et al., 2018). The following is a detailed review of the supportive and institutional roles of intermediaries at various levels in promoting sustainability in firms.

SMEs are usually resource-and-capability-constrained, and that makes it difficult for SMEs to adopt sustainable practices (Del Brío and Junquera, 2003, Simpson et al., 2004, Revell and Blackburn, 2007, Parker et al., 2009, Wilson et al., 2012), intermediaries are seen playing a vital role in supporting SMEs to overcome such constraints. Traditionally, intermediaries fill the information gap, forge collaborative networks, impart skills and training, broker knowledge, improve financial access and diffuse new practices. However, some intermediaries also play customised roles depending on their aim, structure, and ownership. The following roles of intermediaries in improving the environmental engagement of SMEs are found in the extant literature.

#### ***Filling in the information gap***

One of the traditional supportive roles of intermediaries is to fill the information gap. SMEs are sometimes unaware of the implications of their business on the surrounding environment, or they do not have information about sustainable practices. Therefore, they keep on contributing to environmental degradation. Intermediaries are found to have been playing a role in this context by minimising environmental damage. For instance, intermediaries in the leather and tanneries sector of Pakistan were one of the major sources of information relating to the environmental impacts of their business and the potential benefits of adopting green practices (Ortolano et al., 2014, Wahga et al., 2018b). Similarly, intermediaries engaged in disbursing pro-environmental information to SMEs (Puppim de Oliveira and Jabbour, 2017). In the context of European SMEs, intermediaries are also a major source of collecting information related to eco-innovations (Kanda et al., 2018). Similar findings have been reported in other studies that include (Clarke and Ramirez, 2014, Ortolano et al., 2014, Thongplew et al., 2017, Gliedt et al., 2018, Kanda et al., 2018, Wahga et al., 2018b). The review reaffirms that intermediaries do play role of disbursing environmental information to SMEs.

### ***Building networks***

Intermediaries also engage in building networks between firms and their stakeholders. The intention is to deal with missing links, which can potentially connect firms with support institutions, governmental bodies and other stakeholders (Poulton et al., 2010, Klewitz et al., 2012, Clarke and Ramirez, 2014, Gliedt et al., 2018, Kanda et al., 2018, Ramirez et al., 2018, Eanes et al., 2019). For instance, Klewitz et al. (2012) noted that complex intermediaries<sup>7</sup> built a horizontal collaborative network for imparting skills and knowledge to SMEs that had the lower absorptive capacity to undertake eco-innovations. Similarly, Gliedt et al. (2018) found that intermediaries build vertical collaborative networks between niche actors (environmental entrepreneurs) and regime actors (i.e., policy entrepreneurs) to advance green businesses. Intermediaries build such networks by arranging public meetings, workshops, seminars, matching events so to knit together the academia, industry, government, consulting bodies, business associations to advance the case of eco-innovation (Clarke and Ramirez, 2014, Ortolano et al., 2014, Kanda et al., 2018).

There are other instances in the literature that also confirm the engagement of intermediaries in forging horizontal and vertical networks. Poulton et al. (2010) found intermediaries playing the role of middlemen between small producers and the agriculture market in the African context to enable transactions and coordinate the delivery of services. It is, however, worth noting that the effectiveness of such networks is largely affected by the positioning, ownership and embeddedness of the intermediary (Ramirez et al., 2018, Eanes et al., 2019).

### ***Resource capacity and capability building***

Intermediaries also engage in resource, capacity and capability building of the firms. The review entails evidence of intermediaries being engaged in skills development, technology improvement, product development, training of employees, and enhancing access to financial and other resources (Battaglia et al., 2010, von Weltzien Høivik and Shankar, 2011, Klewitz et al., 2012, Klewitz and Hansen, 2014, Ortolano et al., 2014,

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<sup>7</sup> The term 'complex intermediaries' refers to public and private intermediaries together.

Hasle and Refslund, 2018, Kanda et al., 2018). Had the support not been direct, intermediaries did engage in indirectly supporting SMEs through the abovementioned activities. To elaborate on the preceding assertion, consider the following instances. Intermediaries not only engaged in connecting SMEs with potential financiers to seek financial help (Klewitz et al., 2012, Polzin et al., 2016), a public intermediary engaged in sanctioning loans to firms (Kanda et al., 2018). In another instance, an intermediary provided support to firms by conducting energy audits, acting as an advisor, brokering collaborative asset building, and helping firms to become energy and resource-efficient (Ortolano et al., 2014). Yet another instance is about intermediaries who engaged in providing health and safety-related support to resource-constrained European small businesses through trade associations and business advisory units (Hasle and Refslund, 2018). The above sample instances reflect the diversity in the role of intermediaries in building the resource and capacity of the firms.

The review has found that intermediaries also engage in capability-building activities. Some instances show intermediaries engaged in imparting technical education and skills to firms (Millar and Russell, 2011, Thongplew et al., 2017), training staff (Thongplew et al., 2017), mobilising resources for firms (Polzin et al., 2016, Eanes et al., 2019) and helping firms in product development and technology upgradation (Kanda et al., 2018, Kanda et al., 2019). This shows the potential of intermediaries to bring about desired changes at the firm level as well. To elaborate the argument further, consider the following instances. Klewitz et al. (2012) noted that intermediaries in the German manufacturing sector engaged in enhancing the absorptive capacity of SMEs by imparting knowledge and training and by collaborative networking. In another instance, Kanda et al. (2018) noted that publicly and privately funded intermediaries engaged in enhancing the capabilities of SMEs undertaking eco-innovation by providing customised support.

Consider the instance where local governments and stakeholders in Caribbean countries asked intermediary organisations to provide pro-environmental training and education to SMEs (Millar and Russell, 2011). Important to note difficulties in communication and disagreements between the government and private sector hamper the potential of

intermediaries to play their support role, as highlighted in the case of the agriculture sector of the USA (Eanes et al., 2019). Even though most of these studies are conducted in different industries and mostly in developed countries, it can be said that intermediaries do have the potential to support SMEs in developing countries through resource, capacity and capability building.

### ***Sustainable transformation***

Researchers also debate the variety of roles played by intermediaries in the sustainable transformation of businesses. Battaglia et al. (2010) noted that intermediaries exert normative pressure and broker collaborations with stakeholders at the cluster level to influence CSR adoption in Italian manufacturing SMEs, whereas the same is also noted by Puppim de Oliveira and Jabbour (2017) in SMEs of developing countries. Intermediaries have also been recorded helping sustainable transformation through support services such as forecasting and road mapping, i.e., advising companies which technologies to develop, developing networks and partnerships of firms, prototyping eco-innovations, assisting in resource mobilisation, commercialisation in European SMEs (Kanda et al., 2018). Intermediaries play such diverse roles through an ecology of intermediaries (Table 2.4), e.g., systemic intermediaries who operate at all levels to promote the agenda of transition or process intermediaries that work in experimental projects or processes in the transition process (Kivimaa et al., 2019). Moreover, intermediaries influence existing policies and bridge public and private funders to smoothen the eco-innovation process ranging from R&D up to commercialisation (Polzin et al., 2016).

Intermediaries advance sustainable consumption and production patterns by providing information to consumers, increasing the visibility of green products and providing certificates to standardise the green production of firms (Thongplew et al., 2017). In addition to the techno-economic perspectives on sustainability in firms, appropriate training, resources and support for intermediaries could promote the capabilities of SMEs and help them navigate to becoming socially sustainable enterprises (Hampton et al., 2022). The development in the direction of value-driven sustainability changes and

friction in the existing empirical literature points towards the need for further empirical explorations to investigate the impact of intermediaries on sustainable transformation.

While looking at the macro perspective, intermediaries hold a prime position in triggering and enabling sustainable transformation. For instance, a network of intermediaries operates at the actor, regime and system levels to materialise the sustainable transformation (Mignon and Kanda, 2018). During that process, some intermediaries emerge on their own in addition to already existing ones because a whole ecology of intermediaries like the user, process and regime-based transition intermediaries is required for a successful transition (Kivimaa et al., 2019). A reflection on the findings of Gliedt et al. (2018) gives greater prominence to the role of sustainability-oriented innovative intermediaries who, in an atmosphere of political and institutional uncertainty in the USA, engage in more than traditional roles for sustainable transformation. Gliedt et al. (2018) found that intermediaries facilitate the revolution against existing technology, mediate for niche experimentations, collaborate to diffusing niche experiments across the regime level and act as policy entrepreneurs to establish new technologies.

#### **2.3.2.3 Effectiveness of intermediaries**

The effectiveness of intermediaries depends on a host of factors. Public and private intermediaries set out together to upgrade small businesses in a cluster that did not perform the same. For instance, Ramirez et al. (2018) found public intermediary organisation just focused on the formation of clusters, whereas private sector intermediary engaged in developing the capabilities of small firms through the transfer of knowledge at the cluster level and forging inter-firm relationships. The effectiveness also depends on the active or passive role of intermediaries in connecting relevant actors, generating a pool of resources and translating its learnings to relevant actors (Martiskainen and Kivimaa, 2018). The skills of intermediaries to understand a problem, formulate or advocate a practice and then diffuse it as a better practice among firms, are also critical for the effectiveness of intermediaries (Clarke and Ramirez, 2014). Given the value of the above factors, the assertion of De Silva et al. (2018) is difficult to ignore, that is, effectiveness comes from the internal value of intermediaries, which is in turn

determined by how intermediaries capitalise on their existing knowledge and interactive learnings. Moreover, the internal value also comes from the attitude of staff towards expanding market knowledge. Since the assertions from the above-cited literature are mostly coming from qualitative explorations, there is room for empirical validation.

Since intermediaries are of different types and they assume various roles, it becomes difficult to assess the impacts of intermediaries at the system level, e.g., the overall state of innovation at the system level (Kanda et al., 2019). To fill this gap, the authors have designed a transparent analytical framework which can help policymakers to identify the types, roles and impacts of intermediaries at firm and system levels. The framework comprises steps that include identifying the scope of the study, ascertaining the setting of intermediaries, tracking the role of intermediaries, evaluating the role of intermediaries and lastly, making recommendations for stakeholders. The findings of Kanda et al. (2019) emerge from eight case studies of intermediaries engaged in eco-innovation in Sweden and Germany to support eco-innovation, which reflects that such a framework might not work well for developing countries. It can be because the nature, quality and effectiveness of institutions in developing countries are different from the developed world (Hammann et al., 2009, Ortolano et al., 2014, Adams et al., 2016, Wahga et al., 2018b).

Though the broad aim of intermediaries might remain the same, the structure and effectiveness of intermediaries may change in Non-European contexts, as shown in the case of the agriculture sector of Thailand (Thongplew et al., 2017). It is pertinent to mention that support coming from intermediaries may not always remain consistent. For instance, Wahga et al. (2019) have referred to inconsistent support of intermediaries (the National Cleaner Production Center and the CPI) to the leather industry due to the end of funding. Similar findings have been reported about intermediaries' scope of action (Ortolano et al., 2014). This is reaffirmed by Mignon and Kanda (2018), who have highlighted the same observations in the context of sustainable transition.

A few studies have highlighted the dark side of institutional entrepreneurship since intermediaries in these studies generated unintentional yet undesirable impacts. For

example, Khan et al. (2007) found that institutional entrepreneurs engaged in reducing child labour efforts in the football industry of Pakistan, but alongside they produced unintentional and undesirable outcomes, which were unemployment problems for families who were dependent on child labour, displacement of female labour opportunities in favour of male workers and shifting of home-based production to factories where females faced workplace-related problems. The authors referred to the 'dark side' where intermediaries pick up a certain issue while ignoring others (e.g., picking up child labour and ignoring lower-wage issues) to fulfil their interests. Another empirical study Eberhart and Eesley (2018) noted that institutional intermediaries (junior stock exchanges) went counter to our usual understanding of the supportive roles of intermediaries. The authors found that while institutional intermediary (junior stock exchange) was improving the growth of firms, it created an institutional conflict for new entrants in the field (i.e., either to adopt old or new norms). And the intermediary exerted normative pressures on the new entrants to divert resources towards a sector that the intermediary desired instead of making a rational economic choice. This reflects the unintended outcomes of institutional intermediaries.

Overall, the extant literature is mostly focused on documenting the role, not the impact, of intermediaries in eco-innovation, sustainability-oriented innovation and sustainable transition, so the impact of intermediaries remains a relatively under-researched area. This calls for further empirical investigations that should aim at evaluating the impact of intermediaries in different industries and countries' perspectives.

#### **2.3.2.4 Summary of the theme**

Intermediaries have enormous potential to impact sustainable transformation. The potential can be channelled to bring about a much-needed pro-environmental transformation of SMEs in developing countries, an area relatively under-researched. This could be made possible by paying attention to a few observations about the literature on intermediaries.

First, most of the studies have explored intermediaries' roles at distinct levels, but less has been discussed on how intermediaries emerged in the first place. The scope of



intermediary theories is limited, and the language of intermediation is underexplored (Hasle and Refslund, 2018, Kivimaa et al., 2019). Second, empirical investigations have revealed a variety of supportive roles of intermediaries, but there is also a dark side, e.g., Khan et al. (2007) or the evidence is usually context specific, e.g., Kanda et al. (2018). This indicates friction among findings, so more empirical explorations are needed to build consensus. Third, studies have fairly captured varieties of supportive roles of intermediaries, but fewer studies have given explicit accounts of the effectiveness of such intermediation. For instance, Polzin et al. (2016) have documented the role of intermediaries in connecting funders to supporting innovation in firms at various levels, but they did not evaluate the impact of such intermediations. Fourth, less has been researched about the role of intermediaries in the domain of sustainability in SMEs, especially in the context of developing countries because a majority of studies belong to the developed world except a few (e.g. Ortolano et al., 2014, Puppim de Oliveira and Jabbour, 2017, Wahga et al., 2018b) and findings from a developed world context might not resonate with developing countries contexts as noted in the case of drivers and barriers to sustainable manufacturing practices in SMEs (Subsection 2.3.1).

Therefore, based on the above four observations, there is a need to address the gap in the literature, which this study is responding to by conducting an empirical investigation into the role of intermediaries in promoting pro-environmental changes in SMEs of a developing country. The next section gives an account of the institutional role of intermediaries and their impact on the pro-environmental transformation of businesses.

### **2.3.3. Institutional roles of intermediaries and sustainability in SMEs**

The literature on proto-institutions (PI) attends to the initial developmental stage of institutional arrangements. When actors promote a specific kind of institutional arrangement to solve a problem in a field, that is construed as a proto-institution (Zietsma and McKnight, 2009, p. 148). The institutional arrangements are the regulative, normative and cognitive elements of institutions that influence the behaviour of actors (Scott, 2014) in terms of their attention and competencies, selection of resources and choice of alliance partners (Adler and Gersch, 2015), thus influence actions of an organisation (DiMaggio and Powell, 1983). Actors, in turn, impact institutions (Bruton et

al., 2009) through a process known as ‘institutional work’. In terms of proto-institutions, institutional work can be viewed as reflexive actions of actors that aim to impact rules, practices and technologies which are narrowly diffused and weakly entrenched but have the potential to become institutionalised. The outcome of such an institutional process is known as Institutional Change (IC) that may represent in form of new or modified institution (Lawrence et al., 2009). The extant literature on institutional work is relatively thin. Only some of the studies returned in this study’s literature search were explicitly discussing PI, and out of those, a few were situated in the business field. Only one of these has discussed PI concerning environmental sustainability in Pakistan’s SMEs (Wahga et al., 2018b), but that does not explicitly discuss the emergence and impact of PI.

#### **2.3.3.1 Emergence of proto-institutions (PI)**

Given the bleak state of the literature on proto-institutions, only a few reasons for the emergence of proto-institutions have been identified in the literature. The events causing proto-institutions to happen can happen within and outside an institutional field – a recognised area of institutional life, i.e., the organisations that in aggregate constitute an area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products’ (DiMaggio and Powell, 1983, p. 148). For example, an actor from within an institutional field can act deliberately in a way that causes the emergence of a proto-institution (Boxenbaum, 2004). Or a shock exogenous to the field could cause changes in rules, practices or technologies of the field. For instance, changes in mega trends that are external to eco-systems in Italy caused tension in the institutional field which in turn led to the creation of proto-institutions (Kleinaltenkamp et al., 2018).

One of the reasons for the emergence of PI could be attributed to an ‘institutional void’. An institutional void refers to the absence of formal institutions that are specialised intermediaries, regulatory systems, and enforcement mechanisms to bring buyers and sellers together (Khanna and Palepu, 1997, Puffer et al., 2010). Extent literature suggests that institutional entrepreneurs (Mair and Marti, 2009) or intermediaries organisations (Ortolano et al., 2014) emerge to address the institutional void by reconfiguring field

logic (i.e., organising principles based on differences in practices and beliefs (Thornton and Ocasio, 2008)). Such reconfiguration translates into the creation of proto-institutions. Another reason for the emergence of proto-institutions is the 'Institutional gap', which refers to the "varying degree to which institutions may be present or missing" (Kolk, 2014, p. 3). For instance, Kleinaltenkamp et al. (2018) recorded that multiple proto-institutions in the service ecosystem of Italy emerged to address a crisis in the Italian healthcare ecosystem because it was in crisis and was prone to challenges and tensions. Therefore, in such gaps and /or voids, actors, e.g., firms, intermediaries, networks come forward to pay their roles.

Intermediaries also work towards compensating transaction processes which are important for the proper functioning of the markets but are adversely affected. For instance, Hammann et al. (2009) have reported that South African formal environmental regulations for wine producers became incapable of implementation; therefore, a private initiative, the Integrated Production of Wine (IPW) scheme, emerged to present guidelines of various aspects of viticulture and cellars as an EMS covering the whole supply chain of wine producers in South Africa. Klewitz et al. (2012) observed that a complex intermediary in the German metal and mechanical engineering industry emerged to address the institutional void in eco-efficiency innovation through knowledge transfer and help in implementing innovation.

In another study, a Nigerian firm anchored its own CSR activities as private governance to reduce negative and promote positive externalities because of the problem of institutional void (Amaeshi et al., 2016). Similarly, in Middle Eastern firms, the manager's own beliefs, values, norms and attitude emerged as a compensatory arrangement for promoting CSR practices because of usual 'ineffective and weak institutions' in developing countries (Al-Abdin et al., 2018). These instances show that intermediaries come forward to present compensatory institutional arrangements to address voids and gaps. Through such institutional roles, intermediaries develop into proto-institutions. But it is important to note that all intermediaries playing such roles may not develop in always develop into proto-institutions.

Another reason behind the emergence of proto-institutions is that the formal institutions under-servicing the purposes of stakeholders (Helmke and Levitsky, 2004, Klewitz et al., 2012, Harrison et al., 2018, Wang et al., 2019). For instance, Chinese entrepreneurs forged business ties with stakeholders and formed an informal institution for acquiring, bundling and leveraging resources for the sustainability of their firms (Wang et al., 2019). Similarly, business angels in Malaysian SMEs collaborated with family members and the government to create an informal institution for sustaining their firms (Harrison et al., 2018). Furthermore, the quality of institutions could also be an underlying reason since quality varies across nations. Such issues impact actors in an institutional field at various levels (Bruton et al., 2009, Krasniqi and Branch, 2018). Overall, actors cause proto-institutions to emerge to make compensatory arrangements in the situation of weak institutions, address low quality institutions and address the formal institutions' under-servicing of stakeholders' purposes.

#### **2.3.3.2 Role of proto-institutions (PI)**

Proto-institutions are found to promote sustainable practices in two studies. In the first study, stakeholders assumed proto-institutional roles to exert coercive pressure to promote environmental management practices (Delmas and Toffel, 2004) and in the second study, PI exerted normative pressure on leather manufacturing SMEs through supportive activities such as sharing information, providing knowledge and imparting cleaner production skills (Wahga et al. 2018b).

Other than sustainability, proto-institutions PI have played a role in the areas of communication, child nutrition and poverty, the health sector and the forest industry. For instance, PI drove the adoption, imitation and effective implementation of successful solutions in the Polish public broadcasting company (Hensel, 2018). International NGOs and local bodies in the Palestine region collaborated to form a PI aimed at providing missing institutions in the domain of child nutrition and poverty (Lawrence et al. 2002). The collaboration between actors in the German health sector developed into a PI that aimed at affecting the discharge protocol for respiratory patients (Adler & Gersch 2015). The collaborative interactions between multilateral donor agencies emerged as PI, impacting the strength and governance of the global

health sector (Gómez & Atun 2013). A more detailed study by Zietsma and McKnight (2009, p. 11) gave evidence of non-linear collaborative co-creation and competitive convergence between sponsors, competitors and supporters in the British Columbia forestry issue that resulted in competing proto-institutions.

Actors also engage in the creation and scalability of new institutions by simultaneously involving in symbolic legitimacy management and technical material adoption management,<sup>8</sup> as noted in (Adler and Gersch, 2015). In this process, actors negotiate with stakeholders about the content of regulation to gain their legitimacy and initiate the process of institutionalisation to change the field-wide norms, practices and rules (Helfen and Sydow, 2013, Van de Ven and Lifschitz, 2013). It can be noted here that a limited number of studies have explored how 'PI' emerge and diffuse new or changed practices, rules and technologies in institutional fields. It could be because of difficulty in detecting the emergence of such rules, technologies or practices (Burns and Scapens, 2000, Boxenbaum, 2004). The questions of why and how firms should adhere to PI (Hensel, 2018), whether PI differ in less regulative sectors (Adler and Gersch, 2015) and what drives or obstructs the institutional change process (Barley and Tolbert, 1997), highlighted in respective studies, need further explorations in different industries and contexts.

#### **2.3.3.3 Summary of the theme**

The emergence of proto-institutions can be caused by events within and outside institutions. Actors within institutions can act deliberately to trigger proto-institution emergence, or events happening outside the institutional field could also cause proto-institutions to emerge. The 'institutional void' and 'gaps' are avenues in the institutional field where these 'to be institutions' usually emerge and reconfigure field logic. The actors like firms, intermediaries, and networks come forward to play their roles by creating new institutions through negotiations with stakeholders about the content of existing regulations and/or introducing technical material to change the field-wide norms,

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<sup>8</sup> Symbolic legitimacy management relates to shaping field practices, whereas technical material adoption management is about preparing the resources and the competence to address the window of opportunity.

practices and rules. In both roles, stakeholders play important roles. These actors, e.g., in the form of an intermediary, may present as compensatory institutional arrangements that address voids and gaps in the formal institutional framework. For instance, intermediaries took proto-institutional roles to develop an environmental management system covering the whole supply chain of wine producers in South Africa. Similar roles of intermediaries are observed in areas of communication, child nutrition, the health sector, the forest industry and public broadcasting company. One study has noted that intermediaries take the form of compensatory proto-institutional arrangements to promote sustainable practices in leather manufacturing firms through normative pressure. However, important to note here this stream of literature is under-researched since a few studies have explored how proto-institutions emerge and diffuse new or changed practices, rules and technologies in an institutional field. Therefore, there is a need for more empirical qualitative studies so that we further our understanding of processes that go into the creation of proto-institutions and the roles these proto-institutions play in different industries and country contexts.

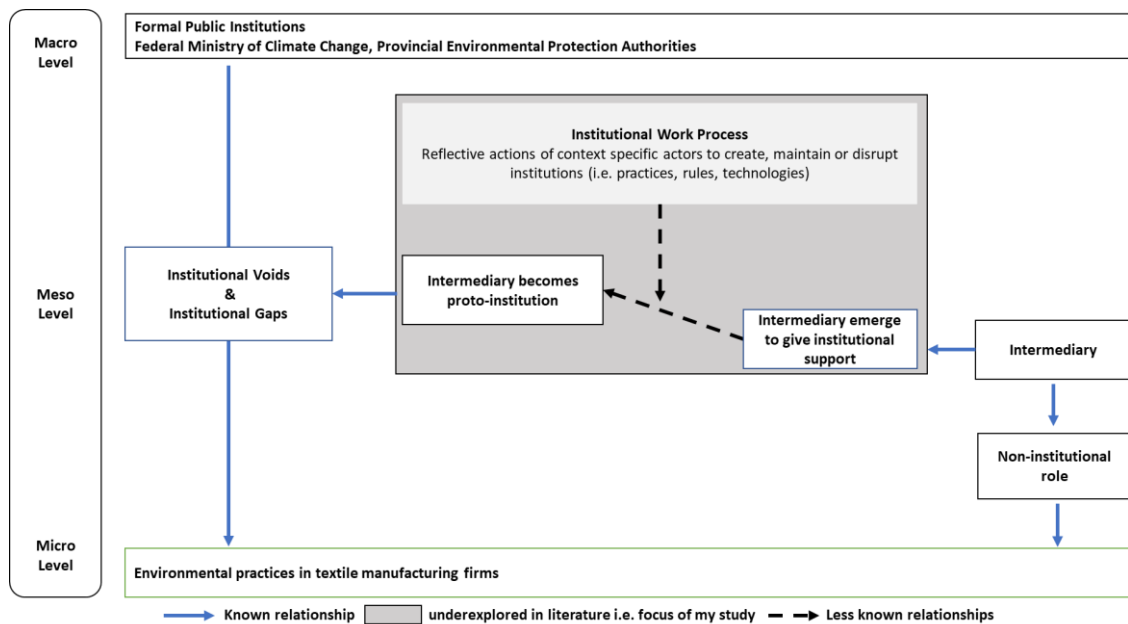
## **2.4. Developing synthesis**

This section consolidates the debates covered in this review of literature – sustainability in SMEs, supportive roles of intermediaries and the creation of informal proto-institutions. Figure 2.1 synthesis the debate and represents a way in which findings of this literature review are interrelated, and it highlights areas that are relatively under-researched areas, such as the ‘grey box’. The continuous arrow-headed lines in this figure represent empirically tested relations/connections, whereas the broken arrow-headed lines indicate relations/connections requiring more empirical evidence.

The figure starts by showing that formal state-legislated institutions such as ministries, agencies, institutes, and advisory bodies undertake various activities that pertain to lending support to firms and exercising regulatory measures on firms to promote pro-environmental changes in businesses (Delmas and Toffel, 2004, Rivera, 2004, Menguc et al., 2010, Lee et al., 2017). However, evidence also suggests that formal institutional arrangements are prone to various constraints such as institutional voids (Mair and Marti, 2009) and institutional gaps (Kolk, 2014) or the under-servicing of stakeholders’

purposes (Subsection 2.3.3), situations which are much common in less developed countries. In such a scenario, formal institutions are reported as falling behind in performing their objectives (Samad et al., 2015, Amaeshi et al., 2016, Wahga et al., 2018b). Therefore, there remains a gap in the governance and support of firms. There is less description of such findings from the manufacturing sector of a developing country which leaves a gap in the debate.

**Figure 2.1 Synthesis: Sustainable practices, intermediary organisations and proto institutions**



Source: Author's formulation

The literature also presents that intermediary organisations play a variety of roles at the meso level, which is a level in between the macro level where institutions are already in place and the micro level where firms are operating in the industry. This study has broadly categorised the roles of intermediaries into support and institutional roles (Sections 2.3.2 and 2.3.3). Through their support roles, represented in Figure 2.1 on the right-hand side at the meso level, intermediaries engage in filling information gaps, building networks, resource and capacity building and sustainable transformation. These roles reflect on connection between intermediaries, stakeholders and institutions. For instance, the intermediaries tend to forge horizontal and vertical networks to promote sustainable environmental practices (Wahga et al., 2018b, Islam

et al., 2020). However, the majority of the studies are based in the developed world, e.g., Battaglia et al. (2010) reported that intermediaries exert normative pressure and broker collaborations with stakeholders at the cluster level to influence CSR adoption in Italian manufacturing SMEs. Kanda et al. (2018) have also noted the roles of intermediaries, but that too is for European SMEs. Therefore, there is a need for further exploration because of the difference in contexts and subjects being researched in reported literature and the aim of the contextual setting of this study.

The literature also suggests that intermediaries, in their institutional role, take actions that are related to institutional work and institutional change processes. Such as, intermediaries take the shape of institutional entrepreneurs, compensatory institutional structures or a network of stakeholders or lobby for the development of policies and legislations (Subsection 2.3.3). Figure 2.1, where I present intermediaries emerge and take proto-institutional role (the grey box) to address institutional voids/gaps. Intermediaries connect with stakeholders, collaborate with actors and take activities that source institutional pressures. For instance, intermediaries' network with actors in the institutional field when they engage in the institutional work process — the creating, maintaining and disruption of institutions. Intermediaries, as actors in the organisational field, take part in sponsoring proto-institutions and in doing so, they become proto-institutional sponsors. Actors also play a role in paddling the institutional work processes so that they can see a successful outcome of the institutional work process, which is known as institutional change. Their institutional work could eventually lead to the formation of proto-institutions. Such a range of activities generates substantial impact, but the caveat is that less has been discussed about intermediaries' institutional roles and impacts that could either be local to the field or temporary in nature because the roles of intermediaries depend on their funding, their outreach, the interests of stakeholders and others factors (Gliedt et al., 2018, Hasle and Refslund, 2018, Mignon and Kanda, 2018).

Proto-institutions relate to all those practices, technologies and rules that are narrowly diffused and weakly entrenched but have the potential to become institutionalised (Lawrence et al. 2002); it is possible that these institutions in making cast their impact



on the effectiveness of formal institutions, mature into formal institutions or coexist parallel to formal institutions (Klewitz et al., 2012, Tang and Ke, 2013, Harrison et al., 2018, Wahga et al., 2018b). However, the literature on institutional work process and the proto-institutions are under-researched in the domain of sustainability in SMEs, and there has been greater emphasis on exploring proto-institutional roles of intermediaries (Suddaby, 2010, Kleinaltenkamp et al., 2018, Wahga et al., 2018b) in varying industries and contexts. There is a dearth of studies that have explored proto-institutions in the context of Pakistan. Although Wahga et al. (2018b) have made some references to proto-institution but it does not document the emergence of proto-institutional sponsors. Therefore, there are gaps in literature on sustainable practices in environment polluting SMEs of a developing country context and gaps in our understanding of the processes of emergence of proto institutions, which this study aims to respond to through a hybrid theoretical framework that is developed in Chapter 4.

Another major debate in extant literature pertains to environment friendly businesses. The literature on pro-environmental businesses and eco-innovation presents two observations. First, ecopreneurship, eco-innovations and green startups lay greater emphasis on care for the natural environment. Not only are they reducing their environmental impact but also developing products, processes and solutions for other businesses to minimise their environmental footprints. Second, SMEs' care for the environment is improving with increasing awareness about their environmental footprints, knowledge about environment friendly alternatives, manager-owners' values and increasing pressure of regulations and social responsibility. SMEs adopt practices such as environmental management systems (EMS), sustainability-oriented innovations, socially responsible changes and circular economy practices (Bansal, 2005, Cordano et al., 2010, Geissdoerfer et al., 2017, Tura et al., 2019). In both of these observations, SMEs face a host of economic and non-economic drivers and barriers (Subsection 2.3.1.2), which are industry and country-specific. The support from intermediaries and the action of formal institutions that I have represented between the meso and micro levels in Figure 2.1 to advance environmental practices in SMEs are important to explore. Most of the empirical evidence comes from the European context, which may not corroborate with developing countries' context for multiple possible

reasons, e.g., economic conditions (Wahga et al., 2018b), cultural and religious values (Al-Abdin et al., 2018) and institutional arrangements (Ortolano et al., 2014). Therefore, there is a need for further empirical investigations in different industry and country contexts.

Overall, this synthesis diagram presents that formal institutions may fail in performing their roles, and intermediaries can emerge to address such failings of formal institutions by presenting solutions to institutional problems, e.g., intermediary organisations could emerge to address institutional voids and institutional gaps in cleaner production in a country. The intermediaries also have a potential role to play in the greening of SMEs, as the extent literature suggests. This synthesis diagram has been operationalised in this qualitative research to derive the research questions of this study. After the analysis is done, the figure is repurposed to map the findings of this study (Figure 7.1) in the discussion and conclusion sections in Chapter 7.

## 2.5. Developing research questions

Building on the gaps that have been identified in this review, the importance of proto-institutional roles in the presence of less effective state institutions (common in developing economies) and the call from researchers, this study aims to understand the coexistence of proto-institutions in relevance with sustainability in manufacturing firms of a developing economy. The broad research question is, ***‘Why and how do intermediaries emerge and evolve into proto-institutional sponsors to influence the pro-environmental transformation of SMEs in developing countries?’*** This has been broken down into sub-questions for analysis.

1. *Why did the proto-institutional sponsors emerge to advance sustainable environmental practices in Pakistan’s textile manufacturing sector?*
2. *How does proto-institution perform in promoting sustainable practices in Pakistan’s textile manufacturers, compared to formal institutions?*

## **2.6. Chapter summary**

This literature review chapter has covered studies particularly focused on sustainability in SMEs, intermediaries and proto-institutions. The ecopreneurship literature and the eco-innovations literature (e.g., green startups) are gaining traction. A rich population of studies has explored the drivers and barriers to sustainable practices but has concentrated on the developed world and is context specific; there are lower chances of replication, e.g., in the developing world. A detailed discussion on intermediaries is available, but less is known about what underwrites the emergence of intermediaries. Even less is discussed about the proto-institutional roles of intermediaries. All findings have been synthesised in Figure 2.1, which represents the flow of the debate and indicates areas needing further empirical investigations to understand the emergence and impacts of proto-institution in the contextual settings of this study. The next chapter presents the context: textile manufacturing practices, their environmental impacts and formal institutions.

## **Chapter 3 Environmental practices in Pakistan’s textile sector**

This chapter presents the contextual settings of this study. It starts with an overview of Pakistan’s textile sector and analyses fundamental changes that have taken place over past three decades and impacted the environmental outlook of the sector. It reflects on existing working practices and technologies at a business level, and across industry supply chains, and proceeds to explore how state-legislated formal institutions are tasked to protect the natural environment. The chapter concludes with a review of the organisations that have assumed roles in transforming sustainable practices and decreasing the overall environmental footprints of the sector.

### **3.1. A brief description of the textile industry of Pakistan**

Textiles in Pakistan is one of the historic and vibrant manufacturing sectors (Hussain et al., 2013) contributing significant shares in national output, exports and job creation since the early years after the inception of Pakistan in 1947 (Hussain et al., 2013, Zaidi, 2015, p. 164). This industry has continued to develop over years under favourable government policies such as import substitution industrialisation which led to the growth of composite and vertically integrated textile mills until the 1960s. After this, there was a shift in focus from integrated mills to standalone mills such as spinning mills (Hussain et al., 2013, p. 8). The nationalisation of industries in the 1970s, US export quotas under export-led growth and the rise in global demand for Pakistan textile products in the 1980s left mixed impacts on the growth of the sector (Zaidi, 2015, p. 165).

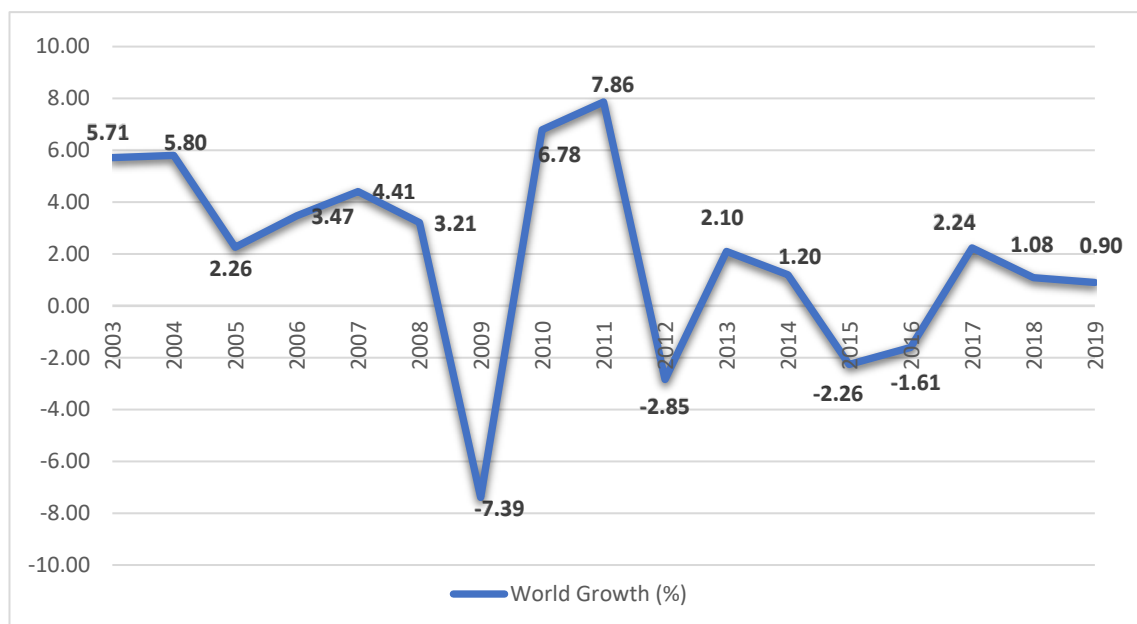
Post-2005, this sector continued to decline until 2011 (Hussain et al., 2013). The 2014 ‘GPS Plus’ status helped this sector access European markets and grow into the 8<sup>th</sup> largest global exporter from Asia in 2019 (Government of Punjab, 2018). The sector now contributes 60 percent to national exports, employs 40 percent of the industrial labour force and produces one-fourth of total industrial value-added products in the economy (Government of Pakistan, 2021c). However, it is becoming uneasy<sup>9</sup> for it to maintain its

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<sup>9</sup> A discussion of the reason for the declining share in total global textile exports is beyond the scope of this study.

share in the global market (Figure 3.1). Probably, the international demands for technical and sustainable textiles), cleaner production processes (e.g., resource-efficient and circular practices), compliance to international standards and the commitment to international sustainability initiatives, e.g., the Better Cotton Initiative (BCI), Net Zero, Race to Zero could explain at least a part of the problem. The practices of this sector are detailed in Section 3.3.

**Figure 3.1 Growth in the share of Pakistan’s textiles in the global market**



Source: Author’s formulation using data from World Integrated Trade Solution, World Bank

The textile sector is home to 7503 SMEs and large-scale textile firms in both organised and unorganised subsectors (Government of Pakistan, 2021b, p. 2). The organised sector comprises 517 composite and vertically integrated mills while the rest of the firms belong to the unorganised sector: the downstream textile firms irrespective of their product destinations, i.e., domestic market or international market (Government of Pakistan, 2021a). In both, cotton-based textile manufacturing dominates in spinning, weaving and processing. Also, the majority of textile-related investments have been in the consumption and production of cotton (Hamid et al., 2014). According to the All Pakistan Textile Mills Association (APTMA) dataset (the most recent is from 2010), the share of Pakistan’s cotton yarn in the international market is 16.4 percent whereas cotton cloth is 8.1 percent only (which should have been otherwise). The high volume

of cotton production and consumption may present a vibrant downstream industry, but it also raises concerns about adverse environmental impacts accruing from the large volume of cultivation practices, input materials (e.g., pesticides, fertilisers) and pressures on water resources. The BCI, however, has changed the trend in favour of organic cotton. Pakistan produced its first bale of better cotton in 2010 with the help of WWF-Pak. “Now 250,000 small farm holders in seven districts in Punjab and five districts in Sindh engaged in the implementation of the Better Cotton Standard System (BCSS)” (WWF Pakistan, 2020, p. 31). See Appendix B for a brief overview of the composition of Pakistan’s textile sector.

### **3.1.1. Textile industry supply chain**

The textile industry supply chain starts from cotton cultivation and ends with made-up garments. In between this long supply chain are, yarn manufacturing, greige fabric (raw/grey fabric) manufacturing, preparation for wet- and dry-processing, dyeing and printing and fabric finishing (Government of Pakistan, 2021c, p. 54). Following is a detailed explanation of Pakistan’s textile supply chain.

Cotton cultivation, the first step in the supply chain, is one of the prime agricultural activities in Pakistan. Approximately 1.3 out of 5 million Pakistani farmers cultivate cotton in Punjab and Sindh, the former producing 70 percent of total cotton production and the latter contributing 28 percent (Ayub Agricultural Research Institute, n.d.). Pakistan is 5<sup>th</sup> largest producer and 3<sup>rd</sup> largest consumer of cotton in the world (Government of Pakistan, 2021c, p. 21). The prime consumer of the cotton crop, the national textile sector is also clustered in Punjab and Sindh provinces. For instance, the *Khurrianwala* cluster in Faisalabad sources some of its raw cotton from Faisalabad, *Gojra*, *Pakpattan* (Samad et al., 2015, Batool and Saaed, 2017).

The cotton crop: seed cotton (*phutti*) goes into ginning industry where ginners separate cotton lint from its seed to produce ginned cotton for the upstream textile industry (PCGA, 2022). Cotton seeds, the by-product of ginning process, are processed to make seed oil. Single-seed cotton is approximately 62 percent seed, 33 percent cotton lint and 5 percent trash (CABI South Asia, 2008). Traditionally, the ginning industry is standalone

bearing old technology such as primitive saw gins (Cororaton and Orden, 2008, p. 25) while with modern technology coming into the national sector, this industry is on its way to efficient technologies for higher levels of production. The large-scale textile manufacturers and composite textile mills such as Nishat, Interloop, Gohar have in-house state-of-the-art ginning setups.

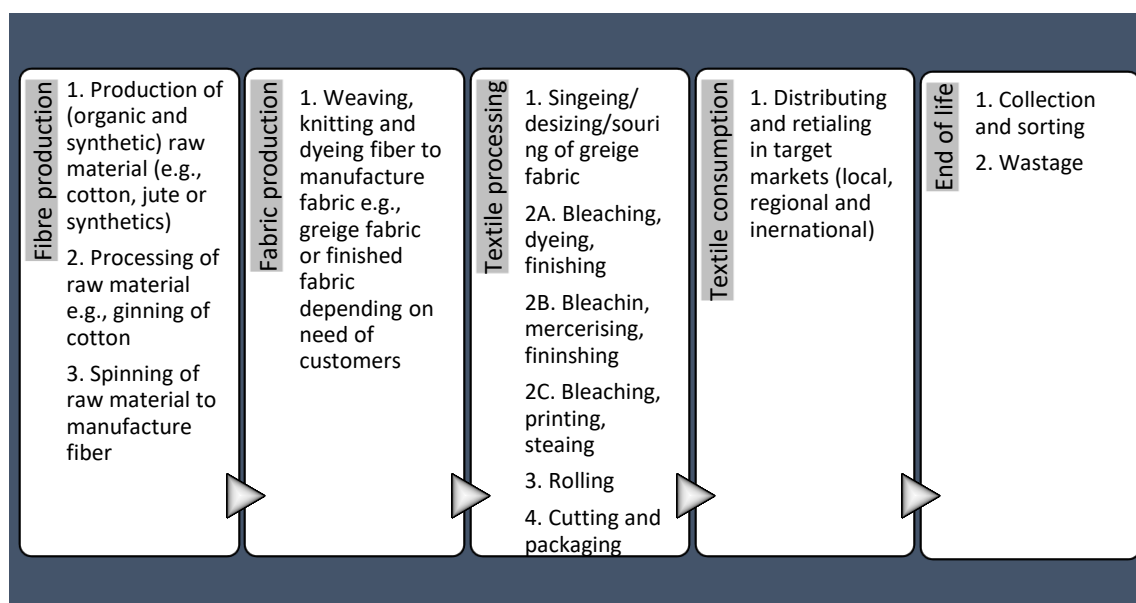
Ginned cotton enters the spinning industry, where it is spun into pure cotton yarn or synthetic fibre – mixing synthetic polymers with ginned cotton (Hussain et al., 2013, p. 5). This national industry is producing the world's 3<sup>rd</sup> largest volume of cotton yarn and it has approximately a 5 percent share in the global export of yarn (Javed and Atif, 2019). Recently available statistics show that between 2015-2018, the spinning industry produced 30-35 million kg of yarn per annum and it has exported approximately 10 to 15 percent of total production to the global market (APTMA, 2021).

The spun yarn, fibre and filament then enter the national weaving industry that exists in form of an integrated weaving sector, an independent weaving sector and the traditional power loom units (Memon, 2013) The virgin yarn is treated with sizing chemicals, lubricants and adhesives which give strength and other customised attributes to the yarn (ChemSec, 2022). The treated yarn is further processed to manufacture greige fabric through weaving and knitting or non-woven methods. Traditionally, weaving is being done with power looms – a weaving technology that is less efficient, noisy, energy inefficient and more polluting (chemical, dust, noise and fabric waste). However, this industry is continuously upgrading its weaving technology with modern shuttle-less looms which are more efficient, productive and quieter than traditional power looms. This shows technological upgradation and environment friendly trends in the sector.

The greige fabric from the weaving sector enters a preparatory stage where it undergoes various treatments depending upon nature and end use before it goes for dyeing and printing (Figure 3.2) The yarn and fabric undergo singeing that burns off projectile fibre or yarn ends to produce even surfaces. This fabric is then de-sized with enzymes to remove leftover sizing chemicals. This de-sized fabric is scoured with solvents which

remove waxes and greases from yarn in the fabric. Afterwards, this fabric is bleached and washed to make it whiter and more absorbent (Ali et al., 2016). It further goes into the mercerisation process in which bases such as NaOH are applied to the fabric to make it lustrous, strong and more adhesive for dyes (consuming less dye). The fabric is now ready for further processing that includes dyeing, printing and rolling.

**Figure 3.2 Supply chain of textile processing mills**



Source: Author's own compilation from fieldwork observations and information in e.g., (Ali et al., 2016, Nawab, 2020, Government of Pakistan, 2021c, Sattar, 2022b)

Traditionally, textile processing mills in Pakistan are wet-processing technologies which intensive in terms of natural exhaustible resources (e.g., water and energy) and synthetic resources (e.g., chemicals, dyes). In the dyeing process, the bleached fabric is treated with a range of pigments, dyes and finishing chemicals to meet market needs, whereas, in the printing process, a range of dyes, pigments, binders and polymeric resins are used in the colour kitchen to make recipes for fabric printing. Some of the traditional non-exporting small and medium-sized processing mills create a considerable amount of chemical pollution in form of chemical- and dye-contaminated wastewater while switching between colour recipes or patterns as per market demand. This trend is however changing, since many processing mills have started using the digital colour kitchen to optimise their use of inputs: dyes and pigments and minimise their environmental footprints. Studies such as Nawab (2020) record that many textile



processing mills in Pakistan have moved on to dry-processing, a more efficient and less polluting technology than wet-processing. Similarly, there is an increasing trend in using organic dyes compared to traditionally used much more harmful dyes (Memon, 2009, Shaikh, 2009).

Post-colouration, i.e., dyeing and printing, the fabric enters into the finishing stage where the fabric goes either through a chemical or mechanical process. In the chemical process, the fabric undergoes various chemical treatments for anti-wrinkle, water repellent and other attributes as per market demand. In mechanical finishing, which is also known as calendaring, fabric is compressed by passing it through two or more rollers under specific temperatures and pressure for a certain period (Kiron, 2022). Calendaring gives lustre, texture and a finished look to the fabric. After processing is finished, fabric is either packed as a ready-to-use product for market or it further goes for cut, make and trim where necessary treatments are done to finalise the product. A usual outlook of medium- to large-scale textile mills with their processes, product ranges and export destinations is presented in Appendix I.

### **3.1.2. Product range**

Cotton and its made-ups along with wool and woollen textiles and synthetic textiles dominate Pakistan's textile products range (Government of Pakistan, 2021c, p. 54). The following is a list of textile sector products, reproduced from Government of Pakistan (2021c, pp. 54 - 57).

- Textile industry made-ups (e.g., bed-wear, cotton bags, hosiery, towels, tents and canvas, knitwear and readymade garments including fashion apparel)
- Cotton textiles (e.g., cotton yarn, cotton cloth, carpets and rugs)
- Knitwear made-ups (e.g., knitted and processed fabrics, knitted garments, knitted bed sheets, and socks)
- Synthetic made-ups (e.g., artificial silk such as synthetic fibres, nylon, polyester, acrylic and polyolefin)
- Jute and woollen made-ups (e.g., sacks and hessian cloth, carpets and rugs)

Pakistan's textile sector continues to diversify its product range to include sustainable and technical textiles however, in a baseline study for mapping the existing supply chain of technical textiles and diagnosing potential hurdles in harnessing technical textile potential, Nawab (2020) noted that the technical textiles make only 0.3 percent share in overall exports from Pakistan compared to conventional textiles are 2.4 percent of overall exports. Appendix H presents a list of technical textiles that are exported to the international market. One of the ways to address this gap is to develop strong culture of R&D among textile manufacturers.

Textile sector is under various technical and non-technical stresses while it works to keep up with international market growth and emerging trends in product development. For instance, one of the hurdles that textile manufacturers face every now and then are discontinuous supply of energy sources. This is coupled with problems such as weak infrastructure of technical training facilities, commercial research and development and financial assistance for the sector. Moreover, the international economic challenges, ancillary political challenges and the recent COVID 19 pandemic have also casted impacts on the sector. Government of Pakistan is making efforts to address issues in its purview such as energy shortage and skills development, but these efforts are limited in terms of their scope, duration and impact. So, SMEs tend to use a mix of fossil fuels to continue their production processes. For instance, the sector received subsidised fixed energy prices: electricity at US\$ 0.07/unit for July-August FY2021 and US\$ 0.09/unit for September-June FY2021, and gas tariffs were fixed at US\$ 0.065/MMBtu for the whole FY2021 (Government of Pakistan, 2021c, p. 52).

The government has also facilitated industry in terms of financial obligations: suspending sales tax on importing machinery, suspending regulatory duties, removing custom duties and improving duty drawback. But such assistance does not persist long enough due to changes in economic or political outlook of the country. At present, Government of Pakistan has encouraged public institutions at federal and provincial levels to promote climate-resilient development through establishment of technical training institutes, initiation of collaborative projects and promotion of commercial

R&D. But such efforts are limited in scope and there is need for higher level of efforts to overcome the above stated issues.

### **3.1.3. Public sector initiatives for sustainable production in the textile sector**

The first textile policy, Textile Policy 2009-14 initiated discussion about sustainability of textile sector and modern textile products such as sustainable and technical textiles. The second policy, Textile Policy 2014-19 (Government of Pakistan, 2015) aimed at promoting sustainability in the sector. This policy brought forward initiatives such as 'better cotton'<sup>10</sup> and value addition in textile products especially those products which are produced by SMEs. The policy also argued for modern management practices; improved compliance to labour and environmental standards and capacity building of textile manufacturers. National Climate Change Policy was also devised to support overall commitment to promote climate resilient economic development in the country. These initiatives reflect a sustainability-oriented mindset of the then Government of Mr Nawaz Sharif's Government (2013-17) for national textile sector. However, the Asian Development Report on Climate Change Profile of Pakistan critiques that National Climate Change Policy was less effective because of ambiguity in division of roles and powers of environmental governance among the provinces and the state. Moreover, it appeared that implementation of this policy was not a government priority because its time and resources were consumed by more immediate challenges: energy shortfall and terrorism (Qamar Uz Zaman Chaudhry, 2017) therefore the second textile policy underperformed in terms of its targets.

Prime Minister Mr Imran Khan's incumbent Government (2018-2022) has prioritised climate change and demonstrated a greater commitment to sustainable development, SDGs per se. The third Textile Policy 2020-25 continued with a focus on finished goods, technical textiles and made-ups with greater attention to sustainability and international compliance (Ministry of Commerce, 2022). In addition, international efforts to promote climate-resilient development in Pakistan continue through projects:

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<sup>10</sup> Better cotton is a clean and green alternative to conventional cotton. It is produced following the Better Cotton Standard System set by the worldwide not-for-profit organisation Better Cotton (previously, Better Cotton Initiative). In Pakistan, WWF-Pak has introduced Better Cotton. For an overview of better cotton in Pakistan, see <https://bettercotton.org/where-is-better-cotton-grown/better-cotton-pakistan/>

Sustainable Industrial Development in Punjab (World Bank, 2019), International Labour and Environmental Standards Application in Pakistan's SMEs (ILO, 2021) and Improvement of Labour, Social and Environmental Standards in the Pakistan Textile Industry (GIZ, 2021a). International NGO: World Wide Fund For Nature (WWF-Pak) continued helping the textile sector in complying with environmental standards (WWF Pakistan, 2017, Farooq, 2018, Noor et al., 2018).

### **3.2. Environmental impacts arising from the textile sector of Pakistan**

The environmental impacts of the textile sector are considerably large. It is a source of major pollutants that emerge from its traditional non-clean energy mix, untreated wastewater, heaps of sludge, solid wastes, air contamination and its blatant non-observance of zoning regulations (Samad et al., 2015). These pollutants are degrading the natural environment, and the health of employees and people living around textile clusters (Memon, 2009, Nergis et al., 2009, Malik et al., 2010, Mehwish and Mustafa, 2016, Khan, 2017). The zoning regulations require textile manufacturers to relocate to the outskirts of the city where The Faisalabad Industrial City and Allama Iqbal Industrial City Faisalabad are established to facilitate businesses to become socially compliant. A public sector organisation, Faisalabad Industrial Estate Development & Management Company (FIEDMC), has been assigned this task. However, the expected facilities at estates lack such as clean production support are still in pipeline and the manufacturers (except for large firms) are reluctant to relocate.

SMEs, the cornerstone of Pakistan's economy (Government of Pakistan, 2019a), are also one of the major sources of environmental pollution (Muneer et al., 2006, Mehwish and Mustafa, 2016, Farooq, 2018, Noor et al., 2018, World Bank, 2019). Generally, SMEs do not afford to install pollution-reducing technologies such as wastewater treatment plants whereas large firms do (UNIDO, 2000, Samad et al., 2015). As the empirical literature notes, the sustainable practices for some SMEs are a drain on their profit (Revell and Blackburn, 2007, Noor et al., 2018), costly to install and operate (Ghazilla et al., 2015) and not demanded by customers (Lawrence et al., 2006, Studer et al., 2006). Other reasons may include, under-valuing environmental impacts (Revell and Rutherford, 2003), lack of knowledge (UNIDO, 2000, Lee, 2009) and lower capabilities

(Wahga et al., 2018a). However, the environmental implications of SMEs cannot be ignored. A part of the reason is that large firms face pressure from international buyers to comply with environmental standards whereas SMEs, who usually sell in local market, face pressures from the community, if at all (UNIDO, 2000, Samad et al., 2015, Noor et al., 2018).

### **3.2.1. Water pollution**

Pakistan Textile Journal, the oldest textile magazine in the sector notes that authors, e.g., Memon (2009) assert that some manufacturers flush hazardous discharge into the public drain. A similar assertion is recorded while arguing that textile clusters are polluting water and air in their vicinity (Nergis et al., 2009). It is noted that large firms adopt pro-environmental measures like treating effluent discharge, but most non-exporting firms are non-compliant with prescribed standards. The wet-processing stage in textile processing mills is prime potential source of water pollution since there are cases where untreated toxic water is drained out (Samad et al., 2015) and wastewater flushed out in public drains without prior treatment can potentially have 'particulate matter, nitrous and sulphur dioxide, VOCs, formaldehyde and toxic waste' which have serious implications for humans and wetlands (Noor et al., 2018). Also, the existing practices of cotton cultivation and processing are water-intensive Abbas and Halog (2021) but there are no limits on the usage of exhaustible natural resources such as groundwater. Therefore, the level of groundwater continues to drop further. The extensive use of pesticides in cotton cultivation and chemicals in wet-processing stages in production of textiles are severely damaging humans and ecosystem (Abbas and Halog, 2021). However, the international drive to use organic dyes and pigments across the value chain is reducing environmental pollution.

### **3.2.2. Air pollution**

One of the prime sources of air pollution is the variety of oils, paints and repellent chemicals being used in coating cloths (Uddin, 2018). The energy mix comprising coal burning, tyre burning and other fossil fuels burning is used to mitigate energy shortage in the sector (Abbas and Halog, 2021). Instead of shifting to an alternative cleaner energy mix, many of the non-exporting firms rely on a traditional energy mix (Muneer et al.,

2006). For instance, cotton waste has the potential to be used as biomass energy for boilers but firms continue to use traditional methods (Abbas and Halog, 2021). Air pollution is having severe impacts on the health of labourers. For instance, Mehwish and Mustafa (2016) have noted that dust arising at various stages in the supply chain has serious impacts on working labourers and their surroundings. Later on, Khan (2017) recruited a sample of 206 workers from the textile cluster in Faisalabad and also found that dust from fibre in the spinning and weaving process is causing respiratory issues in textile labourers.

### **3.2.3. Solid waste pollution**

A range of studies has confirmed that firms in the textile sector flush out toxic solid waste in nearby public drain without any treatment (Khan et al., 1999, UNIDO, 2000, Memon, 2009, Malik et al., 2010). Because, the implementation of environmental and labour-related regulations in Faisalabad and Sheikhpura is weak (Abbas and Halog, 2021). In such a scenario, two factors are driving forces behind adoption and implementation of sustainable practices in the sector: regulatory pressure that emanate from environmental rules and regulations and pressure from international customers (Abbasi, 2012).

Researchers' own observation is that there are some textile manufacturers who comply with prescribed standards irrespective of their connection with international exports because they are driven by religious values or their own realisation that compliance to labour and environmental standards are important for their business and society. For instance, compliance in SME 3 is drive by religious values of the owner manager. Empirical evidence also suggests that textile manufacturers prefer to work with suppliers who have environmental achievements like ISO 14000 and/or ISO 26000 (Abbasi, 2012). Moreover, SMEs adopt sustainable practices to reap economic and non-economic benefits such as gaining competitive advantage (Gandhi et al., 2018), complying with regulative and normative pressures (Perez-Sanchez et al., 2003, Wahga et al., 2018b) or to corroborate with owner-manager's own belief (Collins et al., 2007). The next section reflects on the contrast presented in this section i.e., some firms

successfully adopt pro-environmental changes whereas other firms in the same sector tend not to adopt or fail in adopting the pro-environmental changes.

### **3.3. Formal institutions concerning environmental pollution**

Pakistan's environmental pollution problem has been addressed in such a way that the era from 1947-57 was a period of environment neglect, 1958-1972 was a period of adhocism – environmental problems were addressed in a piecemeal fashion, 1973-2000 was a period when institutions, policies and legislations were started to mitigate environmental problems, and 2000 onwards period has mature institutions, policies, legislation and system for monitoring and evaluation (Government of Pakistan, 2013, p. 7). The environmental governance of the textile sector in Pakistan is the mandate of federal and provincial environment concerning authorities: Ministry of Climate Change (MoCC), Pakistan Environmental Protection Agency (Pak-EPA) and provincial EPAs. The responsibility of environmental governance changed after the 18<sup>th</sup> Amendment in The Constitution of Pakistan 1973 which devolved the power of certain federal subjects to the provinces on the 8<sup>th</sup> of April 2010. The subject of the environment was also devolved.

Post-devolution, provincial EPAs hold prime authority and responsibility for protecting natural environment in the respective provinces whereas MoCC would enforce international environmental agreements, liaise with international organisations concerning climate change and monitor climate-resilient economic development at the national level. MoCC will be less involved at grassroots level in terms of environmental compliances. Therefore, after the devolution, Environmental Protection Agency, Punjab (EPA Punjab) became a core organisation with the mandate to protect Punjab's natural environment from any sort of pollution, e.g., industrial waste. Its objective is, "protection, conservation, rehabilitation and improvement of the environment; the prevention and control of pollution; and promotion of sustainable development in the province" (Government of Punjab, 2022).

EPA Punjab works under 'The Punjab Environmental Protection (Amendment) Act 2012' (PEPA 2012). The Act authorises EPA to either approve or decline applications for new business startups. It requires applicants to submit an initial environmental examination

(IEE) and/or an environmental impact assessment (EIA) report before starting to construct their manufacturing facility. It requires EPA to scrutinise IEE and/or EIA reports and consequently issue a No Objection Certificate (NOC) to those whose reports are deemed satisfactory (Government of Pakistan, 1997). The act empowers EPA to ensure that businesses in the operational phase are complying with prescribed Punjab Environmental Quality Standards (PEQS). The environmental inspectors are supposed to conduct snap inspections and inflict penalties on non-compliant firms. The Act also tasks environmental authority with supporting industry through activities such as seminars and collaborative initiatives to achieve its objectives.

Whereas the formal institutions have been failing in protecting the environment (Nergis et al., 2009, Samad et al., 2015, Noor et al., 2018). Because the pollution in the textile sector, contamination of public drains, use of fossil fuel energy mix, contamination of the atmosphere, heaps of sludge and other solid wastes and the resultant implications on the health of workers and people living in the vicinity of clusters present a gloomy picture of environmental governance in Punjab (Memon, 2009, Nergis et al., 2009, Malik et al., 2010, Mehwish and Mustafa, 2016, Khan, 2017). The problems not only affect the surrounding environment but also affect the health of employees. The possible reasons for weak environmental governance may include

- EPA could not undertake effective monitoring and enforcement of environmental laws (UNIDO, 2000, Noor et al., 2018) because of its weak institutional capacity, lack of follow-up monitoring of EIA/IEE documents (World Bank, 2018, p. 58) and absence of legal coverage to adoption of resource efficient and cleaner production (RECP). According to UNIDO (2022) RECP is a continued usage of environmental strategies to processes, products and services to ensure an increase in efficiency and reduction in risks to humans and the environment.
- Post-devolution, the Pakistan Environmental Protection Act – PEPA 1997 was briefly amended, i.e., replacing Pakistan with Punjab and revising power distribution (Government of Pakistan, 1997), which means the pre-existing and generic national quality standards were not attuned to the industrial base at



provincial levels. So, EPA Punjab did not benefit from its post-devolution powers to legislate, revise and update its governance infrastructure (Khan et al., 2022). Also post-devolution, the MoCC authority remains ensured under article 270 leaving ambiguity in the division of roles and powers between MoCC and EPA Punjab (Qamar Uz Zaman Chaudhry, 2017, p. 45, Mumtaz and Ali, 2019).

The extant literature suggests the probability that state crafted formal institutions might not always perform as is required of them, hence, they could possibly generate institutional issues such as institutional gaps and voids (Mair and Marti, 2009, Amaeshi et al., 2016, Wahga et al., 2018b). Comparable situation has been observed in research settings of this study. Empirical literature suggests that in such situation, informal institutions emerge either to support existing institutions or evolve as a parallel institutional structure to provide for missing or weak institutions (Gliedt et al., 2018, Hasle and Refslund, 2018, Kanda et al., 2019). In the context of Pakistan, a few studies have also recorded roles of intermediaries in improve the environmental practices of firms such as (Ortolano et al., 2014, Wahga et al., 2018b, Wahga et al., 2019) but none of them gave explicit account of creation and roles of proto-institutions, a gap in literature that this study has addressed in Chapters 5, 6 and 7. The next section briefly discusses the response that has come to address weak environmental governance in the textile sector.

### **3.4. Response to weak effectiveness of public institutions**

The partial failure of formal institutions in effective environmental governance of firms and their failure in promoting pro-environmental changes have caused serious environmental impacts. To this end, intermediary organisations are found working for promotion of environment friendly changes in the sector. For instance, CPI (Ortolano et al., 2014) and World Wide Fund for Nature (WWF Pakistan, 2020) are responding to environmental challenges relating to awareness creation, skills development and knowledge creation. Intermediaries are also engaged in addressing other issues that hinder advancement of environmental practices, e.g., compliance gap and sheer absence of public sector commercial R&D institute (discussed in detail in forthcoming

chapters). The following is a brief overview of the underlying reasons that caused the above mentioned issues in the context of this study.

- The institutional gap in ensuring compliance emerged because provincial EPAs were only partially effective in exercising their monitoring, penalising and regulating powers (reasons identified in following chapters). In response to this, intermediaries, e.g., WWF-Pak, GIZ, CPI, SMEA and NTRC have come forward to address the gap. They do not exercise regulatory power rather they exert non regulatory pressures such as normative and mimetic on firms.
- The institutional void in form of commercial R&D facility of the sector persisted because relevant public institutions such as the Ministry of Commerce and Industries, the Ministry of Science and Technology and the Ministry of Climate Change could not establish a dedicated public sector institute for R&D in textiles. In this void, the public sector NTRC moved forward to address the technical needs of the industry. Similarly, there was no public sector cleaner production R&D facility for the sector while there was high demand for cleaner production in the international market. To this end, the CPI emerged to address the void.
- The institutional gap in awareness creation, provision of knowledge and imparting of skills exist because public institutions: provincial EPAs and federal MoCC focused inadequately on arranging activities such as sessions and seminars to apprise a wider segment of industry about environmental footprints, possible impacts of environmental footprints and the availability of clean and green alternatives to existing practices and processes in the industry. Intermediaries are now addressing such issues (Chapter 6) e.g., WWF-Pak, NTRC, and GIZ moved forward to develop best practice manuals and imparted skills to firms through training and relevant roles.
- The institutional gap in financial assistance available to the sector, especially to SMEs, exists because it was difficult to secure loan for upscaling production, installing better technologies and obtaining standardising certification. To this

end, the USAID SMEA project came forward to demonstrate lending to SMEs who usually have higher default risk. WWF-Pak is also following suit, though through another strategy.

In this process, the key stakeholders of the sector, the business associations: All Pakistan Textile Processing Mills Association (APTPMA) and Pakistan Textile Exporters Association (PTEA), have played important roles so to establish, facilitate and strengthen the connection between intermediaries and industry. Moreover, business associations also engage with firms, apprise them of environmental standards and run campaigns to solve the effluent discharge problem (Samad et al., 2015). The Faisalabad Chamber of Commerce and Industry (FCCI) also plays role for the sector through its standing committees and ancillary initiatives that concern intermediaries with regards to addressing institutional gaps and voids.

### **3.5. Chapter summary**

This chapter has presented the contextual setting of this study. It shows that textile manufacturing firms have been only partially compliant with national and international environmental standards. The large firms are mostly compliant because of pressure from international customers, self-drive to remain internationally competitive and other reasons. Whereas SMEs who constitute majority of the sector are working as direct exporters, indirect exporters and non-exporters. Basing on a brief analysis, the chapter present that some of the sampled SMEs are environmentally compliant, some are in process of becoming environmentally compliant whereas others are environmentally distant. As a result, environmental footprints of this sector remain of concern despite the presence of state legislated institutions such as federal Ministry of Climate Change and provincial environmental protection agencies and policy work oriented towards protection of natural environment. The chapter lightly touches on reasons behind environmental implication of the sector. It notes the involvement of institutional gaps and voids as part of the problem and briefly refers to intermediary organisations who have come forward to address the problem. The chapter leaves intermediaries' emergence and their various roles for next chapters. The immediate next chapter presents the theoretical framework and research methodology for this empirical study.

## **Chapter 4 Theoretical framework and research methodology**

This chapter presents the theoretical framework and research methodology used in this thesis. Section I presents a theoretical framework wherein the Institutional Theory and the Stakeholder Theory are combined to explore ‘why’ and ‘how’ proto-institutional sponsors emerged to promote sustainable practices in Pakistan’s textile sector and the impacts these on the sector. Section II presents the research methodology, to explore the research questions of this study. The philosophical underpinning, research design and practical challenges faced during the fieldwork are discussed. The implications of the COVID-19 pandemic on research methodology, limitations and timeframe and quality of this qualitative study are discussed towards the end of the chapter. The chapter completes with the ethical considerations and a summary of the chapter.

### **Section I**

#### **4.1. Theoretical framework**

Building on the findings and synthesis in Chapter 2, the theoretical framework of this study aims to explore how the proto-institutional work process unfolded in Pakistan’s textile sector to advance sustainable practices, despite the presence of formal institutional arrangements. New Institutional Theory (NIT) helps in understanding the institutional work and (proto-)institutional roles of intermediary organisations, but understanding ‘collaborations’ that could potentially underwrite the initiation and emergence of proto-institutions (Lawrence et al., 2002) requires support from the Stakeholder Theory (ST). The following subsections introduce both theories, discuss combining them and present an emergent theoretical framework (Figure 4.1) that has further guided the philosophical underpinnings and research methodology of this thesis.

##### **4.1.1. Institutional Theory**

Institutional Theory concerns complex interactions between actors, agencies and institutions. It argues that institutions shape behaviours, perceptions and choices in a social world. Having been used across fields,<sup>11</sup> Institutional theory in organisations is

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<sup>11</sup>Institutional theory has been rigorously used in two broad domains: sociology/organisations and economics and political science. A wide range of literature covers the differences between Institutional Theory in both domains, but those are beyond the scope of this study.

focused on 'understanding how and why organisations attend, and attach meaning, to some elements of their institutional environment and not others' (Suddaby, 2010 p. 15). In this study, Institutional Theory also concerns organisations (organisational institutionalism). The following paragraphs discuss the emergence of 'institutional work' in Institutional theory.

In the traditional view of Institutional Theory, institutions held a prime position whereas actors and agencies were subordinates who would comply. Structures were believed to be an effective way to influence organisations but what turned out was that the set of rules and regulations could be violated, the social expectations could stay unmet, or common cognitive beliefs might not be adhered to properly. The rationalised myths could also alter the structure and goals of organisations in the field by spilling over formal rules to other organisations. Therefore, there could be loose coupling or decoupling between the actions and structures of the organisations.

New Institutional Theory (NIT) emerged to explain issues of loose coupling and decoupling through isomorphism (DiMaggio and Powell, 1983). Isomorphism gives similar *morphs* (i.e., identity, shape and structure) to organisations which in turn ensures their social legitimacy and survival. The driving force in isomorphism (DiMaggio and Powell, 1983) is isomorphic pressures which originate from the regulative, normative and social cognitive elements of institutions. Although institutions could restrain changes it would be fair to acknowledge that institutions are under continuous change for example deinstitutionalisation: weakening or decay of institutions (Andrews-Speed, 2016). Such empirical investigations brought insights to the theory: actors working as institutional entrepreneurs or playing dynamic roles in, e.g., Institutional Change (IC) and Institutional Work (IW) (Lawrence et al., 2009). Put simply, NIT took an 'agentic turn' (Abdelnour et al., 2017).

#### **4.1.1.1 Institutional change (IC)**

Though institutions have power to restrain changes but it is fair to acknowledge that institutions are under continuous change (Andrews-Speed, 2016) for example consider deinstitutionalisation that relates to weakening or decay of institutions. The institutional

change comes from actors who alter already established beliefs and practices in an institutional field and engage in legitimising such new practices in the field bring (Tina Dacin et al., 2002). There are three pressures that drive institutional change (IC): first, functional pressure arising from undesirable changes in utility or performance of practices; second, political pressure arising from changes in interest or power structure that gives legitimacy to practices; third, social pressure arising from changes to social expectations, beliefs and differences (Oliver, 1992). As a consequence, institutional logic is changed by giving meaning and legitimacy to new practices (Tina Dacin et al., 2002). Institutional change is the 'successful' instance of agency (Lawrence et al., 2011) whereas what practices and processes were involved in institutional change remain unanswered.

#### **4.1.1.2 Institutional work (IW)**

The practices and processes that underwrote institutional change, whether successful or unsuccessful, are described as institutional work (Lawrence et al., 2011). Particularly, institutional work concerns the 'efforts of individuals and collective actors to cope with, keep up with, shore up, tear down, tinker with, transform, or create anew the institutional structures within which they live, work, and play, and which give them their roles, relationships, resources, and routines' (Lawrence et al., 2011, p. 53). Thus, institutional work (IW) entails purposive action of individuals and organisations that are aimed at the creating, maintaining and disrupting of institutions (Lawrence and Suddaby, 2006). The 'creating' component of IW relates to actions of actors to alter meanings, reconfigure belief systems and political actions to reformulate rules whereas the 'maintaining' component of IW relates to ensuring adherence to an institutionalised system of rules and maintaining the institutional capacity to reproduce existing norms and beliefs systems (Lawrence and Suddaby, 2006). The 'disrupting' component of IW entails actions that aim at disconnecting existing rules, technologies and practices from their rewards, moral foundations and core beliefs.

IW happens as a set of activities which happen to exist in a non-linear fashion (Lawrence et al., 2009). Part of these activities represent as collaboration and networking with relevant actors (Lawrence et al., 2002, Zietsma and McKnight, 2009, Gómez and Atun,

2013, Adler and Gersch, 2015, Kleinaltenkamp et al., 2018). As these activities happen every day, but organizations do not generally record such practices, it becomes difficult to trace their origins, Boxenbaum (2004) noted in her case study exploring the development and implementation of Danish diversity management.

This IW concept is not free from criticism. For instance, Willmott (2011) observed that by bringing individuals back to IT, IW is not only overcompensating human agency but also over-emphasising the role of the institutional entrepreneur. Similarly, Abdelnour et al. (2017) noted that IW has brought a new problem with it, which is the paradox of embedded agency, defined as the contradiction between an actor's agency and institutional determinism (Battilana and D'Aunno, 2009, p. 32).

#### **4.1.1.3 Tensions in Institutional Theory**

Institutional theory is one of the prime theories in organisational studies and it is still growing. There are a few tensions in existing debate around Institutional Theory that relate to its scope, boundaries and constituents. First, Institutional Theory researchers (e.g Suddaby, 2010, Willmott, 2011, Greenwood et al., 2014, Willmott, 2015) have raised concerns relating to displacement of institutional theories focus from its core objective that is 'understanding how and why organisations attend, and attach meaning, to some elements of their institutional environment and not others' (Suddaby, 2010 p. 15). It can be explained by attention of researchers towards institutions and institutional process rather than explaining comparative differences between organisations (Greenwood et al., 2014 p. 1206). In addition, the displacement of theory's focus is due to its applications in contexts alien to its core objectives (i.e. categories, language, work and aesthetics) and frequently using quantitative methods to answer questions relating to meanings, symbols, myths and processes whereas the potential actually lies in qualitative methods (Suddaby, 2010 p.16).

Second, as Suddaby (2010) pointed that where researchers leave ideation element of an argument and blindly follow the new concepts. For example, researchers have overshot the marks of agentic changes in institutional works as they had been considering every action of actor as institutional whereas the ideation is about actor's reflexive actions

only. Researchers should consider reflective actions of actors involved in institutional work (Lawrence et al., 2013). Similarly, researchers blindly followed and misinterpreted isomorphism of DiMaggio and Powell (1983) until it was corrected and re-oriented by DiMaggio (1988). The researcher agrees with above observations and implies that ideation elements should be given due importance in research. The researcher also agrees with the observation relating to ideation and usage of qualitative methods.

Third, Institutional Theory lacks an explicit use of Foucault's conception of power and structure of oppression and dominance (Suddaby, 2010, Willmott, 2011, Willmott, 2015) as the theory is in grip of conservatives who consider institutions and institutionalisation process as given (Willmott, 2015). This reflects the weakening ability of Institutional Theory to take an interpretivist position and more often researching the outer-environment of organisation rather than their internal dynamics (Suddaby, 2010). It is worth noting that a few studies like Lawrence et al. (2011) have used the element of power, but that was mostly rhetoric therefore neither empirical nor analytical (Willmott, 2015).

Fourth, there are methodological issues while researching institutional work. For instance, Lawrence et al. (2013) while reviewing the special issue on institutional work have raised concerns about shortcoming of popularly used retrospect technique. They highlight, retrospective technique is less efficient to cover day to day practices that are involved in institutional work however ethnographic technique can be a better alternative. The researcher partially disagrees with calling ethnographic technique as the only alternative since a hybrid of qualitative methods can also potentially respond to the question. Fifth, as Willmott (2011) criticise that institutional work concept has brought along problem of dualism of individual and institutionalism .

In line with the observations of leading researchers in the field of Institutional Theory (Lawrence, 2008, Suddaby, 2010, Greenwood et al., 2014, Willmott, 2015), this study utilised Institutional Theory and its IW lens to explore the under-researched area: the pro-environmental transformation of SMEs of a developing nation (Pakistan), using interpretive qualitative methods.



#### 4.1.2. Stakeholder Theory

Stakeholder Theory (ST) is 'an explicitly systems-based view of the organisation and its environment which recognises the dynamic and complex nature of the interplay between them' (Gray et al., 1996 p. 45). In this broad theory, various theories and models profess two basic premises: managers should consider a range of stakeholders to perform well and managers have obligations to stakeholders inclusive of shareholders (Jones et al., 2017). The IW literature underscores the importance of stakeholders because they participate in the creation, maintenance and disruption of institutions (Lawrence et al., 2009).

Stakeholders<sup>12</sup> have been playing supportive roles for firms. For instance, stakeholders have helped in improving environment management practices of firms (Del Brìo and Junquera, 2003, Delmas and Toffel, 2004) and improving absorptive capacity of firms to undertake sustainable innovation (Widya-Hasuti et al., 2018). However, the impact of stakeholders tends to vary across practices (Hoogendoorn et al., 2015). Similarly, stakeholders have also been playing institutional roles in wake of promoting environmental sustainability in firms. For instance, stakeholders have casted normative pressure on firms that led them adopt sustainable practices (Gadenne et al., 2009, Moorthy et al., 2012, Al-Abdin et al., 2018, Watson et al., 2018).

It has also been observed in extent literature that stakeholders, in some instances, create difficulties in motivating employees for cultural changes (Jenkins, 2004) or they would disrupt existing sustainable practices because of a mismatch between their and business intensions (Brammer et al., 2012b). The failure of consumer pressures to mediate the relationship between entrepreneurial orientation and pro-environmental strategy (Menguc et al., 2010) or SMEs not giving importance to stakeholders (Studer et al., 2006) are indicative of the fact that stakeholders play constructive, obstructive, varying and even no role in terms of sustainability in firms. Therefore, it becomes

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<sup>12</sup> The primary stakeholders include employees, customers, shareholders and suppliers whereas secondary stakeholders include, e.g., NGOs, regulators, trade associations, competitors, and support organisations.

necessary to explore stakeholders in Pakistan's textile sector in terms of their role and effect in promoting sustainable practices in collaboration with formal and informal institutions.

Wagner Mainardes et al. (2011) have noted a few central issues within Stakeholder Theory: the absence of a unique definition of a stakeholder and ambiguous boundaries of the theory which have raised confusion about the scope and applicability of Stakeholder Theory. Probably, both issues could be dealt with through differences in the settings of studies, nature of data and methods used but room for further empirical investigations cannot be discounted. Given these, Stakeholder Theory (ST) continues to be a guiding principle for understanding the dynamic relationship between the environment and organisations. The next section combines Stakeholder Theory and Institutional Theory to synthesise a theoretical framework for this study.

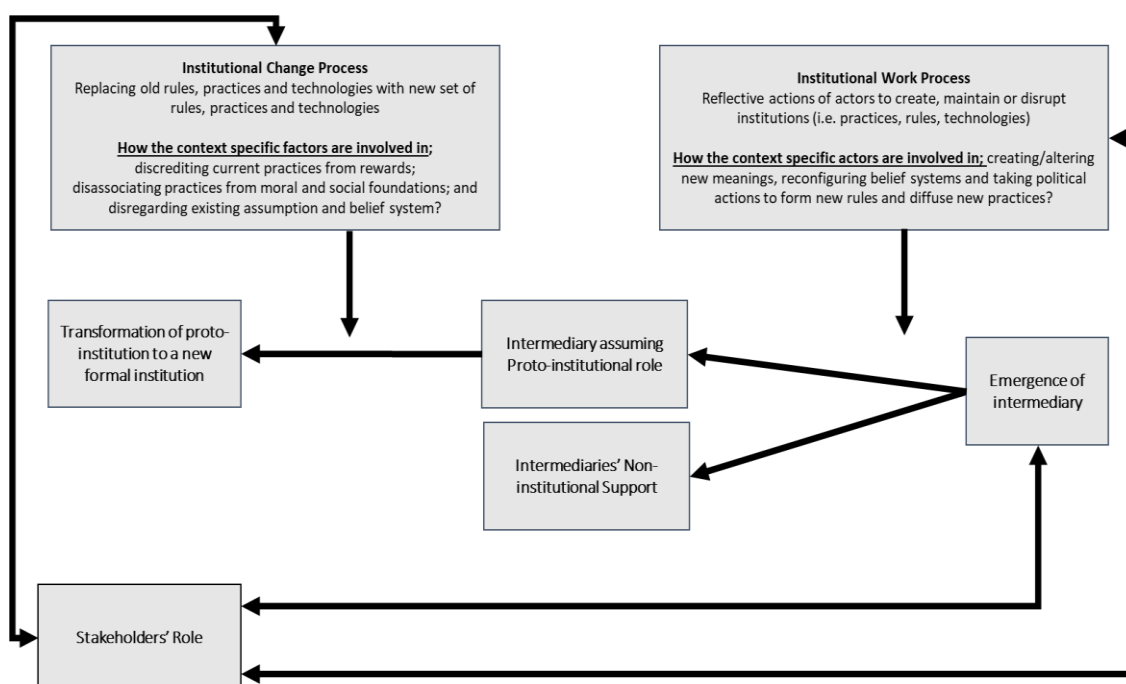
#### **4.1.3. Combining Institutional Theory and Stakeholder Theory**

This study has developed a hybrid theoretical framework by combining the Institutional Theory and the Stakeholder Theory to guide further progression in this study. The rationale behind combining these two theories is that, in silo, the Institutional Theory helps in understanding about legitimacy, institutional pressures, isomorphism and institutionalisation but it, on its own, does not help in understanding as to why we see different responses to same institutional pressures in an organisational field. Similarly, in silo the Stakeholder Theory helps us identify actors and who affect, or they are affected by the firms in the organisational field, explore collaborative activities of the actors and explain their roles. But it, on its own, does not help in understanding institutional effects of collaboration. The hybrid theoretical framework (Figure 4.1) of this study will help in understanding role of stakeholders in promoting sustainability in SMEs, the emergence of intermediaries, the unfolding of institutional work process and the sourcing of institutional pressures across the sector at various levels in the organisational field.

Figure 4.1 on next page represents the linkages of stakeholders with emergence and development of institutions. In understanding the institutional pressures, Institutional

Theory researchers have been employing Stakeholder Theory to explore these isomorphic pressures (e.g. Revell and Rutherford, 2003, Delmas and Toffel, 2004, Marquis et al., 2007, Brammer et al., 2012a, Lee et al., 2017, Al-Abdin et al., 2018, Watson et al., 2018). Hoffman and Ventresca (2002) note that Institutional Theory emphasises on the process of legitimacy and the institutionalisation of organisational structures and procedures so that these structures and processes become ‘taken-for-granted’. Institutional theory has helped in understanding institutional pressures that drive the adoption of environmental management systems (EMS) in firms so that they remain legitimate and competitive. However, the Institutional Theory does not answer, on its own, why firms respond differently to same institutional pressures (Delmas and Toffel, 2004) which means, Institutional theory, alone, lags in explaining as to why firms who are under same institutional pressure to adopt environmental management systems give different strategic response.

**Figure 4.1 Theoretical framework**



Source: Author's own

The stakeholder perspective (alone) could help understand collaborative initiatives but fails to explain institutional effects of collaborations. For instance, individual actors collaborate in one setting but sometimes their collaborations are adopted beyond the

boundaries (of collaborations) and become institutionalised (Lawrence et al., 2002). In doing so stakeholder bring changes in institutional field. The empirical literature lends support to finding that stakeholders also play role in changing institutional field logics and forging collaborative actions of the actors in the field (e.g. Lawrence et al., 2002, Khan et al., 2007, Mair and Marti, 2009, Zietsma and McKnight, 2009, Gómez and Atun, 2013, Herold et al., 2019). In doing so, stakeholders participate in creating, maintaining and disrupting of institutions (Lawrence et al., 2009). Zietsma and McKnight (2009) have provided detailed account of interaction between stakeholders and proto-institutional sponsors as critical component of institutional work and institutional change processes involved in altering the institutional landscape of the forest sector of British Columbia. This evidence also suggest that stakeholders could also play critical role in forging competition among sponsors and in their collaborative co-creation of proto-institutions. But an important consideration to mention here is that studies mentioning stakeholder role in connection with institutional work and institutional change processes are usually based in developed world and less of them have discussed about SMEs which leave room for this study to further explore as to how interaction of stakeholders in institutional work and change process plays out in advancing sustainable practices in SMEs of a developing country.

Stakeholder theory identifies primary and secondary stakeholders that include government, regulators, competitors, suppliers, customers, business associations, chambers of commerce, local community organisations and organisations working to promote environmental practices in firms. These stakeholders can exert institutional pressures on firms to adopt certain practices or systems. As Delmas and Toffel (2004) note, the perception of firm about institutional pressures is influenced by stakeholders' actions. Moreover, similar observations have been made while combining both theories to understand regulative, normative and mimetic institutional pressures (Revell and Rutherford, 2003, Marquis et al., 2007, Brammer et al., 2012a, Lee et al., 2017, Al-Abdin et al., 2018, Watson et al., 2018). Therefore, in line with tradition in the literature e.g., (Lawrence et al., 2009, Zietsma and McKnight, 2009) and recognising the potential value in combining New Institutional Theory and Stakeholder Theory, both theories have been utilised (Figure 4.1) to undertake qualitative analysis of research problem of this study.

In addition to above, combining Institutional Theory and Stakeholder Theory perspectives are also documented in studies such as (Khan et al., 2007, Mair and Marti, 2009, Zietsma and McKnight, 2009, Gómez and Atun, 2013, Herold et al., 2019). It shows that stakeholders' participation in institutional work is well recognised (Lawrence et al., 2009), but less has been discussed about proto-institutional work, especially in connection with sustainable practices in manufacturing firms of developing countries (grey box in Figure 2.1). The following section presents the research methodology used to answer the research questions of this study that are broadly put as the emergence, evolution and impacts of proto-institutions in Pakistan's textile sector.

## **Section II**

### **4.2. Research methodology**

This study belongs to the social constructionist tradition and holds a moderate position within it, following examples in the literature, e.g., Holden and Lynch (2004). The moderate position allows this study to draw on established theories (New Institutional Theory and Stakeholder Theory) to develop an initial understanding of intermediaries and their development into proto-institution. However, the social constructionist tradition does not allow enforcing concepts on research data and that has been taken care of in this study: research data speaks for itself.

#### **4.2.1. Research philosophy of this study**

Research philosophy constitutes the system of beliefs and assumptions about the development of knowledge (Saunders et al., 2015 p. 124). The assumption about the nature of reality (ontology), assumptions about ways of inquiring into the nature of the world (epistemology) and the influence of the researcher's values on a research process (axiology) are determinants of a research philosophy<sup>13</sup> (Easterby-Smith et al., 2015, p. 47, Saunders et al., 2015, p. 124) broadly categorised into three: positivists, constructionist and critical realistic (Bryman and Bell, 2011, Easterby-Smith et al., 2015).

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<sup>13</sup> Detailed discussion of these philosophies is beyond the scope of this study.

According to social constructionists, reality is not universal but rather socially constructed, so IW may be different in the context of this study (e.g., developing country). It is accepted knowledge (Saunders et al., 2015) to understand meanings and enrich interpretations of social worlds and contexts. The axiological position indicates that data and materials are understood and interpreted differently by the researcher. Research becomes value-bound, reflexive, and integral to the study when multiple understandings and interpretations of IW processes constitute acceptable knowledge, and the researcher participates in the study as an integral part. Contrary to the constructionist paradigm, the alternative paradigm of positivistic philosophy was not considered for this study, even though it is more economical, less time-consuming, and statistically generalisable.

**Table 4.1 Implications of positivist and social constructionist**

Features	Positivist	Social constructionist
The observer	must be independent	is part of what is being observed
Human interests	should be irrelevant	are the main drivers of science
Explanations	must demonstrate causality	aim to increase the general understanding of the situation
Research progresses through	hypotheses and deductions	gathering rich data from which ideas are induced
Concepts	need to be defined so that they can be measured	should incorporate stakeholder perspectives
Units of analysis	should be reduced to the simplest terms	may include the complexity of 'whole' situations
Generalisation through	statistical probability	theoretical abstraction
Sampling requires	large numbers selected randomly	small numbers of cases chosen for specific reasons

Source: Easterby-Smith et al. (2015 p. 53)

A contrast between positivists and constructionists (Table 4.1) shows that reality for positivists is that given and observable facts, causal explanations and law-like generalisations constitute acceptable knowledge. Their axiological assumption detaches positivists from what is being researched, which means maintaining an objective stance (Saunders et al., 2015). However, on the flip side, the 'why' and 'how' questions and theoretical generalisation are features of the social constructionist paradigm. Similarly, the other alternative, the critical realist paradigm, is a compromised position between positivists and constructionists (Easterby-Smith et al., 2015, p. 59) because the positivist

tendencies rendered critical realism unfit for the theoretical framework of this study. The implications of choosing the social constructionist tradition are summarised in Table 4.1 and explored in the following subsections.

#### **4.2.2. Research approach**

Research approach, the way of solving a research problem, is broadly categorised into quantitative and qualitative approaches. This study uses a qualitative approach following (Lawrence et al., 2011) critique of research approaches for IW and the tradition in the literature around proto-institutions (Lawrence et al., 2002, Boxenbaum, 2004, Zietsma and McKnight, 2009, Adler and Gersch, 2015, Hensel, 2018, Kleinaltenkamp et al., 2018).

The qualitative approach belongs to the constructionist tradition. This approach features loosely structured methodologies that allow researchers to gather multiple interpretations of a phenomenon (Easterby-Smith et al., 2015) through in-depth analysis of a rather small sample size using inductive or abductive reasoning (Bryman and Bell, 2011) for theoretical abstraction (Bryman and Bell, 2011). The competing research approach, quantitative, belongs to the positivist tradition. It uses rather structured methodologies (Bryman and Bell, 2011, Easterby-Smith et al., 2015, Saunders et al., 2015) with deductive reasoning (Bryman and Bell, 2011) to test theories and reach statistical generalisation. This approach is only capable of answering the ‘what’ question, whereas the qualitative approach can answer ‘why’ and ‘how’ questions (Saunders et al., 2015).

#### **4.2.3. Approach to theory development**

Traditionally, three approaches to reasoning – deductive, inductive and abductive are used in research endeavours. This study uses an abductive reasoning approach which holds a middle ground between extreme positions in the deductive approach (theory to data) and inductive approach (data to theory) and features a back-and-forth movement between theory and empirical study (Dubois and Gadde, 2002), i.e., theory building and data collection and data analysis happen simultaneously (Kovács and Spens, 2005). Abducting reasoning allowed the researcher to initially use theoretical knowledge from

NIT and ST in discovering more about data from industry and its stakeholders. Afterwards, the data from the field were fed back to the theoretical knowledge.

### **4.3. Research design**

The research design refers to an entire process of research (Creswell and Poth, 2016). It is a logical plan that connects empirical data to the research question and its conclusion (Yin, 2018). It is a flexible set of guidelines, connecting theoretical paradigms to strategies of inquiry and methods for collecting empirical material (Denzin, 2008). There are five types of research designs: cross-sectional, longitudinal, experimental, case study and comparative (Bryman and Bell, 2011 p. 60), which differ in the control of data, duration of data collection and nature of the analysis. This study uses a comparative design because of the nature of the research questions of this qualitative inquiry. The comparative design features comparing and contrasting results of different cases, distinguishing uniqueness and commonalities across cases and giving more chance for theoretical reflections on findings (Bryman and Bell, 2011).

The alternative designs are as follows. Cross-sectional design features exploring contemporary issues and was not considered because it focuses on a sample of cases instead of one case. Therefore it fails to supply in-depth case-based findings (Bryman and Bell, 2011). Experimental design requires control over cases and events and tests interventions in laboratory settings (Bryman and Bell, 2011), but the researcher did not have control over the events during the emergence and development of the proto-institutions (PI) analysed in this study. Longitudinal design requires revisiting the same cases (Bryman and Bell, 2011, Easterby-Smith et al., 2015, Saunders et al., 2015), but that was beyond the time and financial resources available for this study. Case-study design provides an in-depth analysis of a contemporary phenomenon but only deals with one case (Bryman and Bell, 2011, Easterby-Smith et al., 2015). Some authors would consider multiple cases within a case-study design (Easterby-Smith et al., 2015, Creswell and Poth, 2016) but the utility of more than one case is comparison because even if cases turn out to be similar, they will be valuable in terms of commonality in their findings (Bryman and Bell, 2011). In a way, findings from a contemporary phenomenon analysed through comparative design contribute to the theory.



#### 4.3.1. Rationalising multiple case-study research method

Research methods collecting data for analysis are chosen based on three conditions: the form of the research question, the researcher's control over events and the contemporariness of the issue under investigation (Yin, 2018). This study explores contemporary events (PI advancing sustainable practices) using exploratory research questions (why and how PI emerge) and it has no control over events (the emergence of intermediaries and their assumption of proto-institutional roles). Therefore, of the five popular research methods used in social sciences (Table 4.2), the case-study method was the appropriate choice for this study. The reasons for not considering other research methods are mentioned against each method in the last column of the table.

**Table 4.2 Choosing the research method**

Method	Form of research questions	Require control of behavioural events?	Focus on contemporary events?	Reason for not adopting the method
Experiment	How, why?	Yes	Yes	This study has no control over behavioural events
Survey	Who, what, where, how many, how much?	No	Yes	This study is focused on individual cases rather than a sample of cases
Archival analysis	Who, what, where, how many, how much?	No	Yes/No	This study is contemporary and qualitative
History	How, why?	No	No	This study is contemporary
Case study	How, why?	No	Yes	-

Source: Adopted from (Yin, 2018, p. 9) and modified for this study

The formal and PI analysed in this study comprise multiple cases, the reason being that a desk search revealed more than one public sector organisation (formal institutions) concerning industrial pollution were working at federal and provincial levels in Pakistan. Similarly, pre-pilot discussions with gatekeepers helped anticipate more than one sponsor(s) – organisations who created PI (Zietsma and McKnight, 2009) would be working for the textile sector, which turned out true in the pilot study. The extant literature presents evidence of using multiple cases within a case-study method (Hansen

et al., 2011, Blundel et al., 2013, Amaeshi et al., 2016, Hernandez, 2018, Matinaro et al., 2019, Hampton et al., 2022) and the benefits that accrue from multiple cases, e.g., helping to make better sense of complex phenomena, breeding intuitiveness (Hartley, 2004, Eisenhardt and Graebner, 2007), making findings more compelling (Miles and Huberman, 1994, Yin, 2018) and helping to achieve literal<sup>14</sup> or theoretical<sup>15</sup> replication (Saunders et al., 2015). Moreover, multiple case studies are popular in the empirical literature on sustainable practices in SMEs (Wahga et al., 2018b, Jacobsen et al., 2020, Hampton et al., 2022) and the proto-institutional role of intermediary organisations (Lawrence et al., 2002, Gómez and Atun, 2013).

In all, the evidence lends support to choosing the case-study method for this research study. The multiple cases facilitated a rather detailed exploration of the proto-institutional roles of intermediaries in promoting sustainable practice among textile manufacturers. A sole case would not have helped comprehend the complexities of the proto-institutional roles of intermediaries. The next subsection presents a detailed account of the research cases of this study.

#### **4.3.2. The unit of analysis and research cases**

‘Formal institutions’ and ‘proto-institutions’ are two cases in this study. The formal institutions are operationalised as public sector organisations that the State has formed to dispense affairs of a government, whereas the proto-institutional sponsors (PI sponsors) are intermediaries that have assumed proto-institutional role to promote environment friendly changes in the textile manufacturing sector. The unit of analysis is an ‘organisation’ either public sector organisation (PSO) or PI sponsor that concern sustainable environmental practices in the textiles manufacturing sector in Pakistan.

#### **A Case I – Formal Institutions responsible for reducing industrial pollution in Pakistan**

The definition of formal institutions, operationalised in this study is, “relatively well diffused practices, technologies, or rules that have become entrenched in the sense that

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<sup>14</sup> In a case study strategy, when a prediction from each case is realised, then it is literal replication.

<sup>15</sup> In a case study strategy, when predictions varying between cases (belonging to different contexts) are realised, then it is theoretical replication.

it is costly to choose other practices, technologies or rules” Lawrence et al. (2002, p. 282). This case comprises PSOs established at federal and provincial levels to address the environmental implications of Pakistan’s manufacturing sector. PSOs: Ministry of Climate Change (MoCC) at the federal level and Environmental Protection Agency, Punjab (EPA Punjab) at the provincial level is part of this case. Other organisations from public sector (Appendix K) were invited to participate in this study but those were either unwilling to participate or they were working for reduced hours with minimum staff due to the COVID-19 pandemic.

#### ***A.1 Ministry of Climate Change (MoCC)***

The MoCC is an apex, federal government, institution that promotes climate-resilient development in Pakistan. The Environment & Climate Change Wing is a particular concern in this study as it drafts policies, e.g., National Climate Change Policy 2012; implements Multilateral Environmental Agreements (Government of Pakistan, 2022) and undertakes necessary actions for the UN SDGs. It promotes behavioural changes in consumption and production at the grassroots level (SWITCH-Asia RPAC and Pakistan Institute of Development Economics, 2021) through programs and frameworks that were discussed in Section 3.3.

#### ***A.2 Environmental Protection Agency, Punjab (EPA Punjab)***

EPA Punjab is responsible for the environmental governance of the province of Punjab. It protects, conserves, rehabilitates and improves the natural environment; prevents and controls pollution; and promotes sustainable development in the province (Government of Punjab, 2022). It uses inspections and infliction of penalties on businesses to ensure compliance with its PEQS.

### **B Case II – Intermediary organisations working to reduce environmental footprints of Pakistan’s textile sector**

This case comprises a mix of organisation that aim to support natural environment. Of these, three are based in the voluntary sector whereas one is a public sector intermediary. The details about their emergence and development into PI sponsor are explored in Section 5.3. Other potential intermediaries: Not for profit organisations

(NFPOs), global development organisations (GDOs) and public sector organisations (PSOs) were also invited (Appendix K) but those were unwilling to participate. Below is a brief introduction to these cases.

### ***B.1 Cleaner Production Institute (CPI)***

The CPI, established in 2004, is a voluntary sector not-for-profit organisation that works to promote cleaner production in Pakistan through its collaborations with national and international organisations. It has been undertaking projects of significant importance such as PISD I and II (CPI, 2018a).

### ***B.2 WWF-Pakistan (WWF-Pak)***

Pakistan Wildlife Appeal, now known as World Wide Fund For Nature (WWF-Pak) is an international non-governmental organisation that was established in 1970 to address the environmental issues of Pakistan. Its core objective was to conserve, but now it has started considering development challenges, including food, energy and water security, exacerbated by the rapid increase in Pakistan's population. To that end, it conserves biological diversity, ensures sustainable usage of natural resources and promotes much-needed reduction in pollution and wasteful consumption (WWF Pakistan, 2020).

### ***B.3 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)***

GIZ is a German bilateral development organisation that works on three priority areas: decent jobs, inclusive societies and climate and energy. GIZ projects concerning textile sector started as a result of government to government talk between Government of Pakistan and Government of Germany following Pakistan's GSP plus in 2014. GIZ is now working on social, labour and environmental standards in Pakistan's textile and other sectors (GIZ, 2021a).

### ***B.4 National Textile University Faisalabad (NTU)***

The NTU Faisalabad (established in 2002) is a public sector textile university in Pakistan. It caters to the technical and human resource needs of the national textile sector. In 2013, the NTRC was established in NTU that provides R&D services to academia, industry and Textile Division in Ministry of Commerce (TD-MoC) in Pakistan.

### ***B.5 USAID Project – Small and Medium Enterprise Activity (2016-21)***

The USAID Project Small and Medium Enterprise Activity (2016-21) concerns with business development services for SMEs in a variety of industries, including textiles, in Pakistan. It aimed to assist SMEs financially. The project shared up to 70 percent of the cost of certifications, e.g., ISO 45001, Ecotax 100, WRAP that in turn helped those SMEs adopt responsible production practices (USAID, 2020, p. 39); shared development cost of e-commerce tools (e.g., website design, software development) and extended matching grants to buy new machines or upgrade to new technology, and promotes resource efficiency among participant SMEs through training and standardisation workshops (USAID, 2020, p. 33).

#### **4.3.3. Sampling approach**

Sampling approaches are broadly categorised into probability and non-probability sampling (Miles and Huberman, 1994). Both of these approaches differ on equal or unequal chances of selection from the population and whether the sample is drawn randomly or nonrandomly from the population (Saunders et al., 2015). Probability sampling features a random drawing of a sample and ensures equal opportunity of selection for each element of the population. The non-probability approach facilitates drawing a sample of heterogeneous and difficult-to-identify units, using a variety of sampling techniques, e.g., purposeful, snowball, convenience, quota sampling and self-selection.

This study employed a non-probability sampling approach because it allowed the researcher to purposively identify and recruit sample organisations that were necessary to undertake research using the theoretical framework of this study. The same has been noted in other constructionist studies which purposively drew a variety of participants that were interested in their qualitative investigation, e.g., (Bansal and Roth, 2000, Gómez and Atun, 2013, Wahga et al., 2018b, Jacobsen et al., 2020, Schaefer et al., 2020, Smolka and Heugens, 2020). The alternative, probability-based-sampling concerns statistical generalisability was deemed irrelevant because this study values the rich information from multiple respondents relating to this research (Bryman and Bell, 2011)

so that findings from this context-specific study could be generalised to another yet similar contextual setting. This study used purposive and snowball sampling techniques, together, described next. Purposive sampling helps in drawing sample units in accordance with the purpose of the study, whereas snowball sampling starts with an eligible participant and then refers to more eligible participants who would otherwise be 'hard to find' (Easterby-Smith et al., 2015, p. 82).

Researcher started with purposive sampling using contacts identified during the pilot study and discussion with gatekeepers. These purposively selected organisations were based in the public sector such as environment protection organisations: Environmental Protection Agency, Punjab (EPA Punjab), business support organisation: Small and Medium Enterprise Development Authority (SMEDA) and R&D institute: National Textile Research Center (NTRC). Other than these, some purposively selected organisations were based in private sector and they included environment consultants: *Envirosustainment and NEC Consultants*, not-for-profit organisations: Cleaner production Institute (CPI) and business associations: Pakistan Textile Exporters Association (PTEA). Referrals from these organisations helped overcome access issues (Easterby-Smith et al., 2015). For instance, CPI referred to another eligible participant working to reduce environmental footprints of manufacturers in Pakistan in its own way, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Consistent with Babbie (2007), the purposively selected sample organisations helped answer research questions in the best possible ways. The size, location and timeframe of collecting the sample are described in the next section.

#### **4.3.3.1 Sample size and location**

The social constructionist tradition, to which this study belongs, aims at theoretical generalisation and there is no consensus on what makes an appropriate sample size in qualitative studies. Eisenhardt (1989 p. 545) professes that 'there is no ideal number of cases, a number between 4 and 10 usually works well' to reach theoretical saturation, whereas 20 to 30 interviews make a reasonable sample in qualitative studies using grounded theory (Marshall et al., 2013, Creswell and Poth, 2016).

**Table 4.3 Profile of sample: Intermediaries, Textile firms and Stakeholders**

Sr.	Sample Code <sup>1</sup>	Description of sample	Level of operation	Interview frequency
<b>Intermediary Organisations</b>				
1.	Cons 1	Third-party auditor	International	1
2.	IBDO 1	Sustainable production	International	2
3.	IBDO 2	Business development	International	1
4.	INGO 1	Nature conservation	International	3
5.	NFPO1	Cleaner Production Institute	National	5
<b>Industry Experts</b>				
6.	IE 1	Technology and compliance	Sector	1
7.	IE 2	Inputs sourcing	International	1
8.	IE 3	Certifications and compliances	Sector	2
<b>Public Sector Organisations</b>				
9.	PSO 1	Environment protection	Provincial	5
10.	PSO 2	Climate-resilient development	National	1
11.	PSO 3	Industrial estate development	District	2
12.	PSO 4	SME development	National	2
13.	PSO 5	Research, innovation, commercialisation	National	2
<b>Textile Manufacturing Firms</b>				
14.	SME 1	Greige manufacturing firm	Non-exporter	2
15.	SME 2	Textile processing to packaging firm	Exporter	1
16.	SME 3	Textile processing mill	Non-exporter	1
17.	SME 4	Textile mercerising firm	Non-exporter	1
18.	SME 5	Textile processing mill	Indirect exporter	1
19.	LSE 1	Textile composite mill	Exporter	1
<b>Stakeholder Organisations</b>				
20.	STKH 1	Association of textile mills	Industry	1
21.	STKH 2	Association of textile processing mills	Industry	2
22.	STKH 3	Association of textile exporters	Industry	1
23.	STKH 4	Chamber of small industries	District	1
24.	STKH 5	Chamber of commerce and industries	District	3
Cons = Consultancy organisation		LSE = Large size enterprise		
IBDO = International Bilateral Development Organisation		NFPO = Not-for-profit organisation		
IE = Industry Expert		PSO = Public sector organisation		
INGO = International non-governmental organisation		SME = Small and medium size enterprise		
<sup>1</sup> Each 'digit' represents a new organisation		STKH = Stakeholder		

Source: Author's own

Even the empirical studies on PI have different sample sizes. For example, Lawrence et al. (2002) conducted multiple interviews in eight organisations, Zietsma and McKnight (2009) conducted 72 interviews in a decade in multiple organisations whereas Adler and

Gersch (2015) conducted 22 interviews in a single embedded case study. This disagreement suggests that there is no magic number or formula to ascertain an appropriate sample size in a qualitative study. Marshall et al. (2013) argue for three ways to defend the appropriateness of sample size: statistical demonstration of saturation within a dataset, following the precedent in the literature and citing recommendations from qualitative methodologists. Following that, the process of collecting primary data stopped when the information coming from additional interviews stopped creating new categories of information or the new information was not adding to existing categories, i.e., the point of theoretical saturation (Saunders et al., 2015, Smolka and Heugens, 2020). Table 4.3 below presents a brief profile of sample organisations. The intermediary organisations included an individual consultant (Cons) working as a third-party auditor of an international brand, the international bilateral development organisations (IBDOs) working towards sustainability through certifications and standardisations, an international non-governmental organisation (INGO) working for natural resource conservation and a not-for-profit organisation concerned with cleaner production in Pakistan.

The industry experts (IEs) clarified the supply chain, the role of institutions and the attitude of industry towards environmental governance. The public sector organisation, stakeholder organisations and textile manufacturers helped understand their perspectives on the research questions under exploration. The sample public sector organisations and intermediaries were in the provincial capital of Punjab, Lahore and the federal capital of Pakistan, Islamabad. Participant SMEs were mostly concentrated in the Faisalabad cluster and a few from the Lahore cluster (Appendix A).

#### **4.3.3.2 Time dimension**

Initially, this study planned to complete data collection in seven months span: March 2020 – August 2020. A pilot project was scheduled in March 2020 before launching full-scale field work scheduled from April 2020 to August 2020. The pilot project was nearing its scheduled conclusion when COVID-19 started in Pakistan. Adapting to the situation and following recommendations from the Human Research Ethics Committee (HREC), this study stopped face-to-face interviews and revisited research methods to address



the implications of COVID-19, discussed in detail in Sections 4.4 and 4.5. After adjusting, fieldwork resumed, but due to the countrywide lockdown it progressed at a slow pace until December 2020 when the researcher was affected by COVID-19, and he remained on a study break for two months. The fieldwork resumed in March and finally came to end in September 2021.

#### **4.3.4. Data collection methods**

Traditionally, qualitative data are collected through interviews, observations, questionnaires and archives, either individually or in combination (Creswel, 2009). Each of these sources has its own merits but interview helps more in collecting rich data (Eisenhardt, 1989, Creswel, 2009). This study has relied on multiple sources: interviews, informal observations<sup>16</sup>, public sector reports, best practice manuals, textile industry magazines and archived publications<sup>17</sup> and relevant documents. The details are explained further in this section.

##### **4.3.4.1 Primary data – semi-structured in-depth interviews**

Interviews are a source of primary data collected specifically for a research project (Saunders et al., 2015) through a predefined schedule of questions, a topic guide or no predefined list or topic of issues.

This study used semi-structured interviews because of its topic guide feature: an informal list of topics that could be asked in any order (Easterby-Smith et al., 2015). This interviewing technique helped explore the socially constructed reality of the participants about complex phenomena of IW, in a relaxed environment that allowed respondents to share their thoughts and observations in greater detail. Moreover, it allowed the researcher to clarify ambiguities arising during the discussion, probe deeper into points of interest using the laddering technique (Easterby-Smith et al., 2015), observe non-verbal clues (e.g., facial expressions, change in tone), steer the discussion towards its aim, provide a high degree of confidentiality (Easterby-Smith et al., 2015) and to stimulate discussion using follow-up questions. Such features were unavailable

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<sup>16</sup> The informal observations, another source of data, were recorded with the permission of participants.

<sup>17</sup> A few archived documents relevant to this study were available.

in structured interviews, which follow a predefined schedule of questions in a particular order or unstructured interviews, which offer more flexibility in the structure and content of interview but are also more time and resource consuming (Saunders et al., 2015).

#### **4.3.4.2 The process of conducting interviews**

Interviews were completed in two steps. In the first step, key gatekeepers were contacted to purposefully identify potential respondents using face-to-face and telephonic discussions with a few representatives of an intermediary organisation, industry expert and textile exporter association. These preliminary discussions helped in identifying organisations who were working to reduce the environmental footprints of the textile sector. The relevant details were maintained in a notebook, to keep track of how potential respondents were identified and ascertained whether one was relevant or not for their interviews in the second step.

The second step comprised in-depth semi-structured face-to-face and remote interviews of industry and its stakeholders. The potential participants identified in the first step were contacted through emails and phone calls. The purpose was to introduce them to this study, request their participation (Appendix D), apprise them of their rights in relation to this study and about potential use of their data (e.g., thesis work, research publications). An interview guide (Appendix F) was shared with the participant to let them know about major topics of discussion and to ask for clarification where needed. The last activity before starting an interview was receiving informed consent (Appendix E). The questions in the interview guide underwent refinement during the pilot and the full-scale fieldwork.

The participants were requested to allow using a voice recorder to let researcher transcribe interviews in the English language for analysis. Participants reserved the right to allow or disallow recording, opt not to answer any question, or ask to stop recording at any time during the interview. Even though, researcher ensured to maintain anonymity and storage interview data in password protected devices, some participants

were reluctant to allow for recording. In such cases, hand notes were taken which proved helpful in retaining valuable information for reflection and analysis.

The pilot study used face-to-face interviews but later it adapted to remote interviewing (e.g., telephone and internet-mediated interviews) because of COVID-19 pandemic. Adapting and continuing with remote interviewing became a challenge because of lack of internet mediate working culture and other reasons mentioned in Section 4.4 . An interview lasted from 50 to 60 minutes on average and majority were tape-recorded. Spare recorders were kept in case the recorder in use stops working. At the end of the interview, respondents were invited to read their transcripts and suggest changes within one month of the transcription. They were also invited to read the thesis once completed.

During the initial stage of interviewing process, researcher was also able to make informal observations but the opportunity of doing so was restricted due to country wide lockdown situation. A research journal was used to record these informal observations during interviews or otherwise visits to fieldwork. The notes during interviews and a record of reflections and ideas were also maintained in this journal. The notes in the research journal, e.g., types of sustainable practices being practices in firms, practices around effluent discharge, interactions between stakeholders and intermediaries and reflections on pre- and post-interview events, all these notes helped at various stages of this research: editing topic guide, recoding data, informing data analysis and using reflections during the writing up.

#### **4.3.4.3 Secondary data – archives and published documents**

This study also used secondary sources to gather fine details necessary to answer the research questions of the study: the emergence of intermediaries, their IW and their roles as PI. The secondary data were collected for triangulation, which not only allowed the understanding of different perspectives but also helped in making research findings robust (Bryman and Bell, 2011, Easterby-Smith et al., 2015).

The secondary data comprised public documents, published reports, best practices manuals, critique on environmental legislation, evaluation of environmental standards in the textile industry, data and information from websites. The material helped in collecting different perspectives on the subject under exploration. The reports by public sector organisations and public sector organisations: MoCC and EPA Punjab helped in understanding formal institutions' perspectives about their roles, collaboration with voluntary sector organisations and sustainable practices in SMEs. The international NGO, WWF-Pakistan has published a range of work on the textile sector which was valuable to read and incorporate into this study. The not-for-profit organisation CPI was helpful in terms of sharing brochures and project reports of their projects for environmental protection in the textile sector of Pakistan. The information from Business associations and public universities helped identify networks and collaborations important to understand issues of formal institutional arrangements, the emergence of intermediaries and sustainable practices in firms. The reports from international organisations, e.g., GIZ, USAID, UNEP and World Bank also helped in understanding the international perspective on sustainable practices in firms and their relevance to international commitments such as the UN SDGs and the Paris Agreement. The archival data were expected to become available but only a few sources were helpful, such as The Pakistan Textile Journal, the oldest published monthly magazine on textile and environmental issues. The 'Wayback Machine' website was used to explore archival data but little relevant material was found on the website.

#### **4.3.5. Data analysis**

Qualitative analysis of primary data is undertaken through two general strategies: analytical induction and grounded theory (Bryman and Bell, 2011). Analytical induction seeks universal explanations of a phenomenon, for which researchers would continue redefining the hypothesis until none of the cases contradicts it. The second strategy is grounded theory which derives theory from systematically gathered and systematically analysed data (Creswel, 2009, Bryman and Bell, 2011, Punch, 2013, Saunders et al., 2015). In its strict sense, grounded theory, advises researchers not to read relevant literature, adopt theoretical sampling and arrive at theoretical saturation and in doing so, it advises researcher to keep their distance from field data and let a theory emerge

from data (Easterby-Smith et al., 2015, p. 93). Theoretical sampling feature of this strategy is that 'emerging theoretical considerations guide the selection of cases and/or research participants' and this will continue until the point of theoretical saturation which is 'when emerging concepts have been fully explored and no new theoretical insights are being generated' (Bryman and Bell, 2011). Put simply, the additional data either yields little or no additional insight (Smolka and Heugens, 2020). As it appears, both strategies are iterative, lengthy and complex so, in strict sense, they do not resonate with the time and financial constraints of this study. Rather, this study has used Corbin and Strauss (2014) methodology of grounded theory which takes relatively mild positions in terms of its assumptions. For instance, it allows researchers to develop pre-understanding by taking insights from different sources, take non-positivist ontological position, actively interrogate data and let theory arise from the interaction between data and theorist (Easterby-Smith et al., 2015, p. 93).

Grounded theory is appreciated for its ability to capture the complexity of contexts, connect with practice, i.e., facilitate the actions of organization members by appreciating them about their situation, facilitate theoretical work in under-researched fields, provide alternative viewpoints on well-established fields, and facilitate the emergence of innovative ideas (Locke, 2001). It also promotes reflexivity and creativity and encourages researchers to refine and revise their emerging theory continuously. However, Bryman and Bell (2011 p. 583) note, grounded theory is criticised in terms of practicality of some of its assumptions such as 'suspending awareness of relevant theories in doing grounded theory', 'not spelling out possible implications of study before starting a study', 'constant interplay of data collection and conceptualisation' and 'usually generates concepts pertaining to phenomena under study rather than phenomena as a whole'.

Researcher asserts that it is difficult to suspend awareness of relevant theories because research projects like this study do undertake review of literature (may not be extensive) to know on-going debates and identify gaps that help them develop a pre-understanding of the broad area of their research. Moreover, research projects, like this doctoral study, do note the implications and have limited time and resources to continue the constant

interplay. This limits the ability of studies using grounded theory to generate theory for phenomena rather generate concepts. Therefore, this research study does not claim to have followed grounded theory strategy in its strict sense rather it has followed Corbin and Strauss' methodology. Bryman and Bell (2011 p. 583) have further noted that possible loss of context in process of 'coding discrete chunks of data' also invite criticism. In order to preserve context and meaning, Charmaz (2006) suggestion of line-by-line coding was employed but attention was also paid to Miles et al. (2014) caution about trivial or unrelated data which they have referred to as 'dross' — material in transcripts and notes that is unrelated to research question and advised that coding of that 'could be more sparing'. Therefore, irrelevant data was skipped and, in some instances, large chunks of data were coded with fewer codes.

Grounded analysis, an analytical tool within the grounded theory strategy, has been used for analysis in this study and that has been explained in detail in following subsection.

#### **4.3.5.1 Grounded analysis**

Grounded analysis is an 'intuitive' and 'open' approach of doing qualitative data analysis (Easterby-Smith et al., 2015). It is 'open' because it allows data to speak for itself and it is intuitive because employs continued comparing of different fragments of data of context under research (Easterby-Smith et al., 2015). The processes of data collection and data analysis go in tandem in this approach (Punch, 2013, Saunders et al., 2015) which means, along with collecting data, researcher would continue to read and re-read data for purpose of coding, categorising and finally teasing out themes (Bryman and Bell, 2011). A distinctive feature of grounded analysis is that it does not rely only on applying 'predefined structures' on to data as is the case in qualitative content analysis rather it lets theory to emerge from systematic analysis of data. Therefore, theory in grounded analysis emerges from categories that are grounded in data that preserves the voices of research participants (Easterby-Smith et al., 2015). There are no hard-and-fast rules of doing grounded analysis but there are guidelines from experienced researchers. For instance, Easterby-Smith et al. (2015) have documented their guidelines of doing grounded analysis which they have developed on basis of their experience with the

grounded analysis. This study has taken guidance from those guidelines. As well as this study has benefitted from frequently-cited sources for qualitative inquiry in general and grounded analysis in particular (e.g. Miles and Huberman, 1994, Charmaz, 2006, Bryman and Bell, 2011, Punch, 2013, Easterby-Smith et al., 2015, Creswell and Poth, 2016). The following steps were followed to complete grounded analysis in this study,

- *Step 1 – Familiarising with data*

Reading all transcriptions, field notes, research diary and other observations to familiarise with the data while asking questions like ‘what is the focus of the study’, ‘what are the data telling me’ and ‘who said what’ in this corpus of data (Easterby-Smith et al., 2015).

- *Step 2 – Developing reflection*

Evaluating the corpus of data in terms of previous knowledge, i.e., asking questions like ‘what the data are saying’, ‘how the data relate to our existing knowledge’, ‘how they depart from what we already know’, and ‘whether they are providing answers to previously unanswered questions’ (Easterby-Smith et al., 2015).

- *Step 3 – Starting with open coding/first-cycle coding*

Assigning codes – a single word or a short phrase to different chunks of data on basis of their relevance to this study. A catalogue of codes within and across the case comparisons was kept. Following considerations of Bryman and Bell (2011), the process of coding started at an early stage. Researcher read and reread all the data, took marginal notes and reviewed codes to consider more general theoretical ideas relating to codes.

- *Step 4 – Conceptualising the data*

Discovering patterns in codes and collating codes into categories to conceptualise data. Following Charmaz (2006) suggestions, short descriptions and analytical notes of the codes helped in cataloguing concepts.

- *Step 5 – Recoding the codes/secondary cycle coding*

Recoding was an iterative process wherein the codes and categories were recoded into a few focused codes. For this purpose, the researcher frequently revisited data to ascertain the appropriateness of new focused codes. The researcher kept on analysing patterns among focused codes to identify initial concepts.

- *Step 6 – Linking categories with concepts*

Identifying patterns between concepts and teasing out themes. The extracted themes were arranged and analysed to develop causal explanations (hypotheses) and how the hypothesis feed into existing theory (Charmaz, 2006). As suggested in Easterby-Smith et al. (2015), findings were shared with the supervision team for review and feedback.

- *Step 7 – Re-evaluation*

In this final step, the extracted themes and causal explanations were revised to reach the final analysis.

The processes of data collection and data analysis proceeded in tandem in this study. Data was collected through interviews using a topic guide which comprised an informal list of topics and questions was used in no particular order. This guide underwent revision in the light of interviews, observations from fieldwork and on-going data analysis. Soon after finishing an interview, researcher refined his rough notes written during the interview (where required) and planned to transcribe interview in English language. The transcription was then imported to NVivo 12 to further familiarise with data for analysis. The software helped in organising data and attaching important notes (marginal notes e.g., major patterns emerging during familiarization process) and analytical memos (e.g., information and reflection about assigning of a code, preserving of informants' voice and identifying patterns in list of open code/first-cycle codes while collating them into focused codes/second-cycle codes) proved helpful in data analysis.



Miles et al. (2014) note that initial codes undergo revision(s) before they take a final form. A comparable situation prevailed while doing hybrid coding in this study. Hybrid coding (Saldaña, 2013) refers to use of both deductive and inductive coding wherein inductive coding refers to process when codes are grounded in empirical data whereas deductive coding refers to process of applying predefined list of codes on empirical data. New empirical data e.g., interviews, field observations, analytical memos and short notes kept on changing the codes and categories. The coding process started when researcher started to familiarise with data. Initial codes were assigned to chunks of data that were relevant to this study. These codes were assigned sometimes to single lines and other times to a large chunk of data such as paragraphs referring to a particular aspect.

Table 4.4 illustrates the way in which process of coding went on in this study. It shows that extracts from empirical data (in the first column) were assigned with preliminary codes/initial codes while data was being read for the first time. These initial codes were an outcome of preliminary jotting (Saldaña, 2013, p. 20). These initial codes underwent revisions upon rereading as well as with addition of new data. The re-reading process has been helpful in breeding clarity in codes without losing information. For instance, the extract ‘... did a seminar on implementation of lean in textile in collaboration with leaders in Faisalabad textile cluster’ was coded as ‘seminar on ‘lean in textile’’ to reduce this statement into a manageable size of data while also preserving the essence of participant’s statement. The first six extracts combined into one first order code ‘Conduct seminars and workshops on sustainability’ as all of them were related to workshops and seminars that were promoting sustainability in one way or the other. During this process of familiarising, it was observed that a few categories and themes were developing. Such developments were noted in analytical memos for easy reference in the second cycle.

As first-cycle coding demonstrates linkage between corpus of empirical data and first order codes, the second-cycle coding represents revising codes assigned codes. In this cycle, codes are rewritten, similar codes were merged, codes having marginal value were removed in order to assemble categories, themes, concepts (Saldaña, 2013). The

**Table 4.4 The process of coding**

Extracts from empirical data	Initial Codes	First order codes	Second order concepts	Aggregate theme	
What we do is, attract SMEs towards sustainability through seminars and workshops	Conduct seminars and workshops	Conduct seminars and workshops on sustainability	Create awareness	Addressing technical gap	
Organised workshop on textile process quality control and inspection for government officers	Workshops on quality control				
Organised webinar on ISO certifications	‘ISO certification’ seminar				
Organised webinar on changing perception towards climate change	Seminar on ‘climate change’				
... did a seminar on implementation of lean in textile in collaboration with leaders in Faisalabad textile cluster	seminar on ‘lean in textile’				
We did seminar on textile waste recycling for our students and industry	Seminar on ‘waste recycling’	Undertake research for academia, industry and ministry	Research and consultancy support		
Every department had its own lab for students and teachers were also working in those small labs. Now the academic staff does research projects here	Support academic research				
...there was no such (public sector) research centre in Pakistan. Government of Pakistan contributed and formed this centre	Public sector’s R&D support to firms				
...we have started a project to improve air distribution system in the spinning and weaving industries that will ultimately reduce air losses	R&D projects for industry				
We have submitted Hemp fibre project to the government last year and we have received the approval just couple of weeks ago	Technical assistance to industry				
We have designed different short courses, workshops and programs of 5 days, 7 days, 10 days, a month on problem that industry was facing at that time... this trend has been started from last 4 to 5 years	Technical support to ministry				
Our consultancies include technicalities related to product development or troubleshooting problems in products	Product development	Give product development consultancy			
If there is any innovation or a new product, we offer firms the best available option. We tell them its benefits. Firms adopt that and collaborate with us. We have few main partners like CBL...	Innovation and product development				
We have also started conducting audits soon after we have collaborated with GIZ	Do auditing service	Conduct environment and energy audits			
We are undertaking Internet of Things (IOT) project to minimise their energy losses	On-the-floor technical support	Provide on-the-floor technical services to industry			
We are reducing ground water rejection from 40% to 20% which will improve their water filtration efficiency	On-the-floor technical support				

Source: Author's own

second-order categories represented in Table 4.4 are a product of second-cycle coding. For instance, codes of multiple roles of PSO 5 such as research support to academia, industry and ministry, consultancy support in product development, on-the-floor technical services and energy auditing services were categorised into one broad category, 'research and consultancy support'. This conceptualisation of data helped in condensing data from PSO 5 and taking a broader look at roles that it is playing in promoting sustainable practice in Pakistan's textile sector SMEs. In the second last step, second order categories were revisited to identify linkage between categories and to tease out aggregate theme. Therefore, both categories, 'create awareness' and 'research and consultancy support' that were found linked together to the concept of intermediaries playing role to address 'gaps in technical support for the industry', were catalogued into one aggregate theme/dimension. As of last step, the themes and explanation were revisited in each case to inform analysis and discussion of this study.

This process of coding was employed for all empirical data of this study and illustration like Table 4.4 were prepared to represent roles of intermediaries in promoting sustainable environmental practices in Chapter 6, Section 6.1. However, the 'extracts' and the 'open codes' have not been added to each data structure, tables in Section 6.1, to adjust for space constraints. Instead, researcher has followed the assertion of Gioia et al. (2013, p. 23) and presented relevant quotes from empirical data in the main text to keep an alive connection between raw data and first order codes, second order categories and aggregate dimension in data structure in Section 6.1. This way of presentation has allowed researcher to put things into perspective for discussion, in addition to economising on space. The tables presented in Section 6.2 are designed with different aim, that is to present cross comparison between roles of intermediaries in promoting sustainable practices in Pakistan's textile manufacturing SMEs.

#### **4.3.5.2 Qualitative content analysis**

Qualitative content analysis, an analytical approach to qualitative data that seeks to identify underlying themes in the content being examined (Bryman and Bell, 2011, Helfen and Sydow, 2013, Matinaro et al., 2019), has been employed to review documentary evidence relating to overarching aim and research questions of this study.

In contrast to qualitative content analysis which focuses on qualification, this qualitative analysis of textual data was done by reading and re-reading of documents (Saunders et al., 2015) to detect emerging patterns. Documents were analysed to identify concepts relevant to emergence and development proto-institutions and their role in promoting sustainable practices in textile sector even when formal institutions were already present. The predefined categories that were assembled on basis of research settings of this study underwent slight refinement and new categories emerged during this iterative process (Easterby-Smith et al., 2015).

The qualitative content analysis in this study sought to identify situations, events and evidence relating to intermediaries who emerged to develop into proto-institutional sponsors. This content analysis also sought to identify institutional roles of sponsors for promoting pro-environmental changes. This analysis proceeded by first identifying documents to be content analysed. These included published reports, briefs, magazines and local journals (e.g., Pakistan Textile Journal). In next step, 'theme' in document was identified as the unit of analysis. The documents were read and re-read to identify patterns leading towards themes. Data was coded then categorised and finally emergent themes were detected. As tradition is, brief quotations from texts have been extracted to illustrate emergent themes. The emergent themes from secondary data helped in exploring different perspectives about the roles of formal institutions and role of intermediary organisations.

This content analysis has helped in understanding broader picture and have added confidence to findings from grounded analysis by giving opportunity of triangulation. The presentation of results has been done through timelines that present account of events relating to development of intermediaries into PI sponsors; graphs that illustrate networking of actors in becoming PI sponsors; and table represent analysis informed by themes.

#### **4.4. Fieldwork challenges**

Research work can be a daunting task owing to the variety of challenges it may face. This section presents an account of challenges that emerged during the fieldwork and how

this study adapted to those challenges while also maintaining its quality. The challenges emerged from two sources: the contextual settings of the study and the COVID-19 pandemic. Chapter 3 presents contextual information relating to textile manufacturing practices and their implications for the natural environment but it did not present a perspective on the attitude of textile sector stakeholders towards academic research<sup>18</sup>. Conducting fieldwork activities in Pakistan is challenging because a large segment of Pakistan's economy is informal and firms in this economy avoid participating in research activity because they suspect researchers to be public officers collecting sensitive data. The participants are usually not up to date with modern communication technology (i.e., internet-mediated interviews) and see no value in using them because they lack the necessary skills, equipment and resource. Another reason, reflecting on the researcher's prior experience of fieldwork in Pakistan, is that some gatekeepers of industry and government tend to undervalue research activities.

#### **4.4.1. Challenges in accessing primary data sources**

Gaining and maintaining access to potential respondents at multiple levels is critical for a study (Saunders et al., 2015). The access has to be at physical, cognitive and continual levels. Physical access does not always guarantee that respondents will give all information necessary to complete a research project. Rather, cognitive and continuing access is critical for collecting data necessary for completing the research. The multiple-level access issues faced by this study are discussed below.

*The physical access* was challenging because potential participants were time-constrained, resource-constrained and affected by COVID-19 implications. It was difficult to gain physical access, especially to formal institutions for multiple reasons that may include working with reduced staff and being uncomfortable with remote interviewing. One of the suggestions for gaining organisations' trust is to add a few questions that would be brief research on the organisation's issue of interest. This suggestion was not considered because of bureaucratic hassles for both the organisation and the researcher. Instead, reliance was on social networking (Easterby-Smith et al.,

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<sup>18</sup> This is researcher's experience from the fieldwork of this study and previous research projects. This could be generalised to other research activities in the country.

2015). An alumnus of the researcher's alma mater, GC University Lahore, turned out to be one of the members of APTPMA, who connected the researcher one of the participant intermediaries and a textile processing mill.

For instance, the researcher sent emails and made phone calls to invite public sector organisations: Ministry of Climate Change (MoCC), Pakistan Environmental Protection Agency (Pak-EPA), Textile Division in Ministry of Commerce (TD-MoC), Small and Medium Enterprise Development Authority (SMEDA) and Environmental Protection Agency Punjab (EPA Punjab) to participate in this study but only two of them responded to the invitation. Public offices preferred to have the researcher visit them in their offices because they were apprehensive of a person on the other end of the phone; unfamiliar with internet-mediated conversations; stressed and overwhelmed by the COVID-19 pandemic; working with reduced staff, and some were unwilling to take part in this study. Many times, public officers rescheduled interviews because they could not commit more than ten minutes to the interview. To this end, the researcher leveraged his personal and his alumni network to access potential respondents while complying with research ethics protocols (i.e., having informed consent and not exerting any sort of pressure on the participants).

*The continuing access*, gaining agreed research access to an organisation on an incremental basis (Saunders et al., 2015), was sought by elaborating the aims and objectives of this study<sup>19</sup> to the senior management. Upon apprising senior management, e.g., a director of one of the PSOs about the nature of the project, questionnaire guide, possible use of their data and the need for follow-up interviews to minimise communication errors, helped the researcher to contact respondents through their line managers. Liaising through line managers was instrumental in maintaining continual access in the public sector organisation (PSO) and with one of the stakeholders (STKH 3). The researcher's invitation to the competent authorities to have this study

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<sup>19</sup> This information had already been explained in the invitation to participate and consent forms that were sent before meetings.

confirmed from The Open University UK or the supervision team was instrumental in gaining and maintaining access.

*Cognitive access*, gaining access to data from the intended participants (Saunders et al., 2015), was initially difficult. Re-explaining the nature of the research project, anonymity and protection of their data and detailed discussion about the consent form (in the native language) were useful in developing 'trust' between the researcher and the participants. The researcher also maintained a respectable attitude towards participants, respected their opinion, adapted to the environment and dressed according to the culture, local to the field. Moreover, polite language during the conversation (Easterby-Smith et al., 2015) was maintained to facilitate discussions.

#### **4.4.2. Challenges in conducting interviews**

There was an issue around English as a medium of conversation in interviews. Except for a few, respondents preferred using the language with which they were comfortable. The interviews turned out to be multilingual (Punjabi, Urdu and English) so their translation into the English language became challenging since finding appropriate words during translations was difficult because of the difference in the vocabulary of the Punjabi, Urdu and English languages. To this end, the researcher either kept native language words as they were and noted intended meanings in parentheses to preserve the originality of the participant's words, or the researcher sought help from his colleagues in the Faculty of Arts and Social Sciences, GC University Lahore for appropriate translation.

During interviews, participants were hesitant in sharing information and there also were potential challenges such as wilfully misinforming or giving socially desirable answers, i.e., when respondents adjust their answers to paint a positive image about themselves (Easterby-Smith et al., 2015). To address those challenges, the researcher ensured privacy and anonymity to hesitant participants and triangulated the information with multiple sources of data to minimise misinformation or biases. To address any potential challenge relating storage of respondents' data, the audio recordings were stored in an

encrypted Open University-managed laptop and the same were uploaded to the researcher's OU OneDrive account for backup.

#### **4.4.3. Challenges in accessing secondary data sources**

There also were challenges relating to accessing archives despite ensuring their anonymity, confidentiality, encrypted storage and non-commercial usage. Consequently, the researcher collected university magazines, project brochures, project fact sheets, annual reports and referenced documents available in libraries to compensate for archival data. All these documents collected during fieldwork were stored in a locked cupboard. The original copies of field notes were also stored in a locked cupboard and their scanned copies were uploaded to the researcher's OneDrive account as a backup.

#### **4.5. COVID-19 pandemic and limitations of the study**

The COVID-19 pandemic had serious impacts on the scope, research methods, and duration of this research, the health of the researcher, the SMEs, and the textile sector in Pakistan.

##### **4.5.1 Adjusting the scope of the study**

Initially, the scope of the study was to explore the role of formal institutions and PI while covering formal institutions, intermediary organisations and textile manufacturing SMEs in Pakistan. However, due to the restrictions during the COVID-19 pandemic and the limited time and financial resources, the scope of this study was adjusted in two respects. First, large-scale textile manufacturers were also invited to participate in the study because SMEs found it exceedingly difficult to continue during the pandemic. The SMEs who agreed to participate in this study before the pandemic were followed up during fieldwork but those were either closed or non-responding. Second, instead of covering both provinces, Punjab and Sindh, wherein the majority of textile clusters and their stakeholders are located, this study was restricted to Punjab. This means that no primary data were collected from potential public sector organisations and stakeholders concerning R&D in the textile sector located in Sindh province. However, no such



distinction was made for 'secondary data' to compensate for missing information and to present a holistic view of the national textile sector.

#### **4.5.2 Revisiting research methods of the study**

Before the pandemic, primary data were collected using semi-structured face-to-face interviews and informal observations, but to adapt to the COVID-19 pandemic, remote interviewing was used instead. Remote interviews added to challenges in gaining and maintaining access (Subsection 4.4.1) because these were done using telephonic conversations and internet-mediated tools of communication, e.g., Skype for Business, Microsoft Teams, and Zoom. These tools complicated the processes of interviews (Subsection 4.4.2) or perhaps because of a context expectation that an interviewer would meet and greet potential respondents more than once to gain cognitive and continuing access. The countrywide lockdown prevented the researcher from travelling to organisations for accessing archival data. A possible solution was to have relevant documents posted to the researcher's address but for that researcher was expected to seek permission from competent authorities who were difficult to access remotely. Therefore, archival data collection and consequent historical analysis of archival data were excluded from the scope of the study.

#### **4.5.3 Redefining the timeframe of the study**

The COVID-19 pandemic not only exacerbated the challenges in accessing respondents and successfully conducting interviews but also impacted researchers' health, which compromised his ability to continue research during and after the pandemic. These implications stretched data collection, transcriptions and preliminary analysis tasks over 15 months which otherwise were scheduled to be completed within ten months.

### **4.6. Quality assurance of the study**

There is no unique set of criteria to ascertain the quality of qualitative research. The researcher emphasised transparency, self-reflexivity, replicability and generalisability through a checklist of eight criteria for assessing the quality of a qualitative study (Easterby-Smith et al., 2015, p. 216). An overview of the debate around criteria for qualitative research by Bryman and Bell (2011) suggests that one position is to root

quality criteria in 'reliability' and 'validity'. The second position is those who agree with (Guba, 1985, Guba and Lincoln, 1994) to root the criteria in 'trustworthiness' and 'authenticity'. This position comprises five component quality criteria: credibility, transferability, dependability, conformability and authenticity of a study. Recently a set of researchers have started taking a mean position between the two, e.g., (Yardley, 2000). This study has followed (Guba, 1985, Guba and Lincoln, 1994).

The credibility of this research has been ensured through the triangulation of multiple sources of data and by inviting respondents to read the findings from this study. A detailed description of the context and culture of the fieldwork are documented in Chapter 3 to facilitate the reader in ascertaining the transferability of this study into a different context. For dependability, the researcher kept a log of research and methodological details about data collection, coding processes, teasing out themes and considerations (like ethical) used during this research. The findings are grounded in the data, which ensures confirmability. The last parameter, authenticity has been ensured through a fair representation of respondents' thoughts.

#### **4.7. The ethical considerations**

The ethical practices of researchers have strong implications for practical issues that might emerge in a research study. An ethically inconsiderate study could cause a range of issues such as (but not limited to) issues around access, physical harm, mental stress, deception, data breach or blatant violation of copyrights. Bryman and Bell (2011) have emphasised researchers to follow ethical guidelines to undertake informed consent, maintain their safety and anonymity, maintain their privacy and trust, protect their data and ensure their copyrights. Furthermore, researchers should maintain the respect and dignity of respondents (Easterby-Smith et al., 2015) and avoid issues relating to affiliation, deception and conflict of interest.

The Human Research Ethics Committee (HREC) at The Open University requires its researchers to receive a favourable opinion from the committee before proceeding to fieldwork. In line with that, a favourable opinion from HREC, Reference Number HREC/3445/Aslam, was received for this study in February 2020 (Appendix C). The

copyrights of this study are reserved by The Open University UK. Below is an overview of the ethical guidelines followed in this study.

Participation in this study was voluntary; formal consent was received from each participant before the interview. The participants were informed about their rights to decide the time and place of the interview, to allow or deny a tape recording of their interview, refuse to answer the question(s) or leave the interview at any time. Participants were ensured comfort, privacy, and anonymity in an interview, especially when the respondent was an employee. Interviews were rescheduled in case the participant was hesitant to share his/her opinion in the presence of colleagues. Moreover, they were not subject to any physical harm or mental stress.

The participants of this study also reserved the right to request a copy of their digitally recorded interview or its transcription within one month of the interview. They reserved copyrights on their spoken words. Participants' data were anonymised, kept confidential, saved in encrypted devices, and backed up to an encrypted OU OneDrive account by the researcher. No one other than the researcher had access to the original data. Upon completion, data would be stored in the Open Research Data Online (ORDO) platform of the University for a minimum of ten years. This study has no deception, affiliation or conflict of interest. It is purely academic research funded by the Faculty of Business and Law. To address such an issue, the researcher plans to resort to a third party and/or the supervision team for advice.

#### **4.8. Chapter summary**

This chapter has presented the theoretical and methodological underpinnings of qualitative analysis of the roles that formal and proto-institutions are playing in promoting pro-environmental changes in textile manufacturers in Pakistan. Soon after the favourable decision from the Human Research Ethics Committee, the researcher started fieldwork to collect primary and secondary data. Transcriptions of digitally recorded semi-structured interviews, the researcher's handwritten notes and observations comprised primary data, whereas secondary data included published reports, brochures, magazines, and web material. The comparative research design has

been used to compare multiple interviews using an inductive approach to theory building. Grounded analysis was used for primary data analysis whereas content analysis was used for secondary data. The chapter has also presented an account of challenges that this study faced and solved to keep on progressing. In addition, ethical considerations have also been discussed. The chapter closes with a discussion of criteria for ensuring the quality of this study.

## **Chapter 5 The emergence of proto-institutional sponsors**

This chapter examines proto-institutional sponsors, the actors who initially sponsored or supported proto-institutions to emerge (Zietsma and McKnight, 2009), from two points of view. First, it explores why new intermediaries emerged or pre-existing intermediaries assumed proto-institutional role, despite the presence of relevant formal institutional arrangements (Sections 3.3 and 3.4). Second, it presents a record of events that explain processes of emergence and/or development of intermediaries into proto-institutional sponsors. The chapter starts with an analysis of existing practices and processes of textile manufacturing to reflect on situation in the sector in presence of existing institutional arrangement. It then explores reasons for emergence of proto-institutional sponsors and proceeds on to present collaborative networking of intermediaries and the factors affecting the emergence and development into proto-institutional sponsors. The chapter ends with a comprehensive discussion of the reasons for the emergence of proto-institutional sponsors in Pakistan's textile sector and the processes that bring them into being.

### **5.1. Reviewing the existing practices and technologies**

In Pakistan's textile sector, a variety of manufacturing practices and technologies are used in textile production. Large and export-led businesses use modern production practices and processes and invest in the latest technologies to improve social responsibility whereas small firms continue with their outdated practices and processes and show less sensitivity towards the environmental implications of their businesses. A senior executive of WWF-Pak believes that Pakistan's textile firms can be categorized into four categories based on their compliance with international environmental and labour standards. He said, "First, exporters who complying because of international buyers' pressure. Second, vendors of international brands complying with proscribed standards to maintain their business. Third, progressive firms who value natural environment and their competitiveness. Fourth, most non-compliant firms who would lament government policies (high tax, no support in treatment plants) but would not change even when some of their concerns are addressed." Keeping in view the above quote and collating researchers' own observation during fieldwork observations and his

discussions with textile industry stakeholders, this study has categorised SMEs into three distinct categories basing on their considerations for the natural environment: the environmentally distanced SMEs, the SMEs in transition towards becoming environmentally compliant and those SMEs who are actively pursuing compliance and eco-innovation. These categories vary in terms of their commitment to the natural environment and their proactiveness in adopting environment friendly measures, in ascending order.

#### **5.1.1. Environmentally distanced SMEs**

The term 'environmentally distanced' describes SMEs with low commitment to the natural environment and are passive in adopting environment protection measures (see Wahga et al., 2019). Two of the respondent firms were environmentally distanced SMEs, who were operating in downstream industry of greige fabric production. Both of these firms could be described as 'locked' in outdated technology, because they are using power looms<sup>20</sup>, informal working practices '*jugaar*' and informally learned knowledge '*ustad-shagird system*' (Aftab et al., 2010). These firms are continuing with unsustainable production just like the observation made in tea manufacturing sector of Sri Lanka (Munasinghe et al., 2017). These SMEs use '*jugaar*' (workable shortcuts) or follow their peers for technical inputs in production processes to help themselves avoid expensive practices and processes (Table 5.1) which implies that both of these distanced SMEs lack vision, awareness and knowledge (Lee, 2009, Millar and Russell, 2011, Bhanot et al., 2015, Ghazilla et al., 2015) about better alternatives available in the sector.

The fieldwork revealed that SME 4 was mainly concerned with sizing of grey cloth, was using a non-standardised (local) formula of preparing sizing chemicals through a mixture of cheaper ingredients; had replaced expensive natural gas with a mix of coal and tyres and lacked arrangement to address pollution, e.g., scrubbers for air pollution or treatment of hazardous chemically contaminated wastewater. Instead of using standardised housekeeping practices, such firms appear to waste input resources, e.g.,

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<sup>20</sup> Compared to modern shuttle-less looms, outdated shuttle (power) looms are economical because they do not require skilled labourers, but they are noisy, resource-intensive (labour and storage space) and less productive and are low-quality product producers.

randomly stowing inputs and manhandling hazardous chemical material (which is sometimes left unattended). These distanced textile SMEs create air pollution (dust), noise pollution (loud power looms), chemical pollution (slippage of bleaching and sizing chemicals) and water pollution (flushing out hazardous yet untreated wastewater into local drains).

**Table 5.1 Outlook of environmentally distanced SMEs**

Practice and technologies		Consistency with the empirical literature
SME 1 & 4	Use a non-standardised (self-designed) system to store and manage inputs e.g., chemicals, raw fabric etc	(Hillary, 2004, Murillo-Luna et al., 2011, Kabir et al., 2019)
SME 1 & 4	Use out-dated knowledge that they learned informally from ancestors for greige production. Or use <i>Jugaar</i> in preparing bleaching and sizing chemicals	(Murillo-Luna et al., 2011, Raza et al., 2018, Wahga et al., 2018b, Kabir et al., 2019, Prashar, 2019)
SME 1 & 4	Lack in controlling or abating pollution (e.g., no recovery/treatment plant for hazardous caustic and sizing chemicals or no arrangements for noise in weaving section)	(Wahga et al., 2018b, Kabir et al., 2019)
SME 1	Use a mix of outdated (power looms) and relatively modern technology (shuttle-less looms) to save cost of production	(Hillary, 2004, Simpson et al., 2004, Lawrence et al., 2006, Wilson et al., 2012, Ghazilla et al., 2015)
SME 4	Use outdated technology e.g., manually operatable boiling chambers that have lower conservation of heat energy	(Murillo-Luna et al., 2011, Raza et al., 2018, Prashar, 2019)

Source: Author's own

Even though SME 4 uses less efficient boilers, SME 1 has embraced relatively modern technology to reduce input costs and scale up while maintaining its outdated shuttle (power) looms. SME 1 does not have any formal arrangements for noise pollution, and its production practices and knowledge are gained informally. It can be seen from the technology and housekeeping practices of both distanced SMEs that they firmly believe that their businesses are non-polluting (Lawrence et al., 2006, Klewitz et al., 2012). Furthermore, none of these SMEs reported that they were subjected to pressure from their buyers (domestic clients and local processors) or from society at large to practice socially responsible practices. The insight is consistent with Korean SMEs' inertia towards adopting sustainable practices when not under normative pressure (Choi and Yi, 2018). These pressures would have led the distanced SMEs to adopt sustainable

practices as demonstrated in recent studies e.g., (Fernández-Viñé et al., 2010, Bhanot et al., 2015, de Jesus Pacheco et al., 2017). Therefore, environmental pollution was prevalent in these two weaving industry SMEs but far less than in resource-intensive wet-processing SMEs in the upstream industry. Now, the International Labour and Environmental Standards Application in Pakistan's SMEs (ILES) is working specifically on advancing clean and economic alternatives to existing practices in textile SMEs.

### **5.1.2. The transition to environmental compliance**

Two of the participants textile processing firms: SME 5 and SME 2 adopt sustainable environmental practices, though their practices still have implications for the natural environment. As an indirect exporter, SME 5 produces basic textiles for vendors of international customers. It displays an environmental compliance policy in its office for its up and downstream concerns. It maintains a customised system for environmental and chemical management (Hillary and Thorsen, 1999), uses certified and standardised inputs and produces output using a blend of outdated and modern technology (Table 5.2). As a result, it has improved its margins and complied with some of the requirement to reduce its environmental impact. However, it lacks a system for effluent treatment.

SME 2 manufactures and exports basic textiles to the European market. The company is run by a foreign graduate committed to environmental protection and resource efficiency. When its financial resources allow, SME 2 trains its employees in housekeeping, protective gear, and waste handling. As SME 2 moved towards a dedicated compliance team, it was able to attract business as well as improve its social image. As part of its practices, it uses standardized inputs and produces its products using both old and new machinery (Table 3.2). Due to space and financial constraints, it uses old boilers for bleaching, while in new setups, it tends to install new machines.

Sustainable packaging, including cardboard hangers and ribbons, is one of its environmentally friendly practices. As observed, SME 2 has a visible and well organised waste management system, but it lacked secondary or tertiary level arrangements for effluent treatment. Consistent with Wadho and Chaudhry (2018) who undertook an empirical investigation of Pakistan's textile manufacturing sector and found that



medium-sized textile manufacturers spend more on acquiring machinery, employee training and innovation in their mode of marketing and knowledge. However, the missing complementary markets, e.g., for cardboard hangers act as a barrier to adopting sustainable packaging. Both these firms lack operational wastewater treatment plants.

**Table 5.2 Outlook of SMEs becoming environmentally compliant**

Practice and technologies		Consistency with the empirical literature
SME 5	Uses standardised systems for environmental management and chemical management	(Hillary and Thorsen, 1999)
SME 2	Has better housekeeping and standardised systems for waste management, environmental management, and chemical management	(Hillary, 2004, Klewitz et al., 2012, Triguero et al., 2013, Klewitz and Hansen, 2014)
SME 5	Use eco-friendly inputs in production e.g., blends of poly cotton, poly-viscose, cotton-nylon. The chemical suppliers are REACH certified	(Hillary, 2004, Klewitz et al., 2012, Triguero et al., 2013, Klewitz and Hansen, 2014, Singh and Trivedi, 2016)
SME 5	Displays environmental policy for its customers and vendors	(Lee, 2009, Battaglia et al., 2010)
SME 2	Proactively working on sustainability – transitioned from ‘No’ staff member to ‘a’ dedicated team for compliances and has replaced plastic with cardboard hangers	(Lee, 2009, Battaglia et al., 2010, Meherishi et al., 2019)
SME 5	Upgrading to resource-efficient technology. Uses a mix of outdated and modern technology (Colour kitchen, printing, and dyeing)	(Hillary, 2004, Simpson et al., 2004, Lawrence et al., 2006, Wilson et al., 2012, Ghazilla et al., 2015)
SME 2	Tends to upgrade its technology but now it uses a mix of old boilers (lower heat management), power looms (low product efficiency, noise pollution) and shuttle-less looms for output efficiency	(Williams and Schaefer, 2013, Resta et al., 2014, Bhanot et al., 2015)
SME 2 & 5	Observes standardised practices such as of OEKO-TEX, BSCI, G.O.T.S and ISO 9001 certifications	(Ghazilla et al., 2015, Moretto et al., 2018)
SME 2 & 5	No wastewater treatment plant	(Kabir et al., 2019)

Source: Author’s own

### 5.1.3. Actively pursuing compliance and eco-innovation

The third type of SMEs engages in eco-innovation (Fernández-Viñé et al., 2010, Klewitz et al., 2012, Robinson and Stubberud, 2015) in their products, processes and organisation. SME 3 and LSE 1 were strongly committed to the natural environment. They were actively pursuing skills, practices and technologies to resonate prescribed international standards. As Bos-Brouwers (2010) also noted, both of these firms are

connected to eco-innovation because they focus on improving their technological process and minimising their production costs. These eco-innovative firms are led by visionary, educated and value-driven owner-managers who are value driven that is, they keep competitiveness and care for the environment in their business activities (Williams and Schaefer, 2013, Islam et al., 2020). Table 5.3 shows that both of the mills have standardised working practices and processes depending on the range and market destination of their products, e.g., ISO 14001, GOTS, OCS, OKEOTEX 100, Fair Trade, Cotton USA (Hillary, 2004, Klewitz et al., 2012, Triguero et al., 2013, Klewitz and Hansen, 2014). Both firms adopt contemporary and modern technologies to breed sustainability in their business. LSE 1 uses SAP for paperless working, supports the internet of things, built a state-of-the-art spinning mill, and invested heavily in its testing laboratory. SME 3 also promote similar actions, e.g., paperless working culture and internet of things to become efficient and compliant.

Both firms are also oriented towards R&D. For instance, LSE 1 has commissioned NTRC to develop milk fibre and materials which are liquid repellent. SME 3 has innovated fashion solutions for national industry by using liquid ammonia plant to improve softness in its textile items such as men's shirts. Similarly, both firms have variety of technical consultancy projects e.g., SME 3 has liaised with NTRC to improve water and heat management in its production process. Consistent with Abbasi (2012), these firms prefer working with suppliers who are environment friendly, that is they have certifications such as ISO 14000 and/or ISO 26000. It was observed that the export-oriented LSE 1 lays even greater emphasis on the input, processing and output of its manufacturing concern. Having driven by the importance of international competitiveness and urge to generate more business, LSE 1 has set up a compliance department which has its own manager so that it ensures compliance to international standards such as BEPI, HIG Index and others (briefly described in Appendix G).

In one of the discussions, the compliance manager of LSE 1 arranged a brief tour of wastewater treatment plant and allowed researcher to interact with the staff at work. The staff showed sample collected from the plant and advised how the tests are reported for routine compliance. This was important to highlight here because firms

usually claim to have done effluent treatment arrangements but that is greenwash because in fact they do not like to speak more about these arrangements or are reluctant to show such arrangements to the enquirer. Moreover, both firms promote use of clean energy and circular practices and promote skills training and development of its staff to improve sustainability in their businesses. The next section discusses the case of large-scale firms.

**Table 5.3 Outlook of environmentally compliant SMEs and large enterprises**

Practice and technologies		Consistency with the empirical literature
SME 3 & LSE 1	Keep up with contemporary equipment, inputs and technologies such as SAP for paperless working system, internet of things, state-of-the-art spinning and weaving plants and eco-friendly testing, e.g., chemical analysis of fabric (ISO, AATCC, ASTM)	(Battaglia et al., 2010, Fernández-Viñé et al., 2010, Sung and Lee, 2011, Robinson and Stubberud, 2015, Wadho and Chaudhry, 2018)
SME 3 & LSE 1	Undertake R&D activities for sustainability such as developing liquid repellent materials, innovative fashion solutions. Both firms use sustainable packaging and eco-labelling	(Studer et al., 2006, Bos-Brouwers, 2010, Moretto et al., 2018, Le et al., 2021)
SME 3 & LSE 1	Have primary and secondary effluent treatment plants: a wastewater treatment plant and a caustic recovery system (50-60 percent)	(Resta et al., 2014, Shen et al., 2017, Hussain and Wahab, 2018, Kabir et al., 2019)
SME 3 & LSE 1	Practice water and heat management, e.g., heat exchangers transfer heat to fresh water fed back to machines	(Klewitz and Hansen, 2014, Adams et al., 2016, Yuan, 2019)
SME 3 & LSE 1	Use clean energy as input: use low sulphur coal for energy, use clean control technology and, use solar energy where possible	(Singh and Trivedi, 2016)
SME 3 & LSE 1	Collaborative training and attending workshops on resource efficiency and sustainable measures in liaison with GIZ, NTRC, WWF-PAK	(Bos-Brouwers, 2010, Islam et al., 2020)
SME 3 & LSE 1	Circular practice: re-using the water first used in boilers	(Tura et al., 2019)

Source: Author's own

#### **5.1.4. Case of large-scale firms**

The large-scale textile firms in the sector are composite and integrated processing mills that observe standardised practices, processes and technologies while producing for both, national and international markets. In contrast to SMEs who adopt practices differently as exporters, indirect exporters, suppliers of exporters and non-exporters.

Consistent with studies such as (Bansal and Roth, 2000, Robinson and Stubberud, 2015, Okai-Mensah et al., 2022), large firms in Pakistan's textile sector are compliant because they have to have a range of certifications to retain their competitiveness and social compliance.

Large scale firms observe a variety of environmental practices that include spinning of yarn using better cotton, processing of textiles using globally accredited chemicals and dyes, production of textiles through automatised processes, undertaking R&D activities, ensuring workplace safety arrangements, ensuring use of pollution-abating and preventing arrangements such as wastewater treatment plants, or smoke scrubbers and continuous training and development of employees. Cleaner production, fair trade and a range of international certifications are common to these medium-to-large mills, especially the exporters. A list of certifications of such large firms is presented in Appendix K.

The compliance departments of these integrated mills are vibrant, powerful and up to date with developments in international compliance practices and standards. One of the large size firm, LSE 1 shared that it replaced its existing machinery with Japanese alternatives to level up with international customers such as M&S, ASDA, IKEA and others to improve its compliance and productivity. Another instance is of Crescent Bahuman Limited, one of the leading textile manufacturer, whose employees participate in trainings at research institutions such as NTRCs' Compressed Air Centre of Excellence (NTU, 2021c, p. 3) and the Italy-Pak Textile Technology Center (NTU, 2021d, p. 14) at the NTU Faisalabad to improve their knowledge, productivity and compliance. These large firms liaise with industry stakeholders and capitalise on various informative sessions, trainings workshops, on-the-floor services and commercial R&D that are provided by stakeholder organisations. This helps them in improving their working practices and production technologies.

Large firms also actively engage in international collaborative initiatives, e.g., Net Zero (emissions) to promote carbon neutrality, the alliance for water stewardship to conserve water resources on a long-term basis and the BCI for sustainable and harmless yarn

manufacturing and others. Consistent with Ferling (2019) some of these firms are participants in international initiatives for better environmental and chemical management systems. Appendix H presents a generic profile of working practices in medium-to-large textile manufacturers, compiled using information gathered during discussions with an integrated mill of home textiles catering to the national and international markets: LSE 1. It may not reflect the intricacies and delicacies of practices and processes in other integrated mills but, this profile does give an overview of sustainable environmental practices of export-oriented medium-to-large firms. Given this state of textile manufacturing practices and processes, the next section presents reasons for emergence of intermediaries that then assumed role of proto-institutional sponsors.

## **5.2. Reasons for the emergence of proto-institutional sponsors in Pakistan's textile sector**

A variety of intermediaries are operating at regional, national and international levels and they are mediating between Pakistan's textile sector and its stakeholders for various issues. These issues are diverse, and they include promoting awareness and education about sustainable practices (CPI, WWF-Pak), development of technical skills (NPO, TEVTA, NEC, GIZ), providing business development services (SMEDA, USAID, Cons 1), promoting commercial R&D (NTRC, RDA Cell) and relocating industry to outer skirts of the city (FIEDMIC). These intermediaries play supportive role (Subsections 2.3.2) and institutional roles (Subsections 2.3.3). These intermediaries can play institutional roles through actions that assist firms to develop, diffuse and adopt eco-innovation as has been noted in literature e.g., Kanda et al. (2019). A few of the intermediaries mentioned above develop further into PI sponsors – organisations impacting rules, practices, and/or technologies in the sector to promote sustainable practices among manufacturers through isomorphic pressures<sup>21</sup>. Table 5.1 shows that four PI sponsors are voluntary sector organisations whereas remaining three are international organisations who were already operating in Pakistan but assumed PI sponsor role in in the context under-exploration.

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<sup>21</sup> This chapter is restricted to the emergence of proto-institution sponsors so their language of intermediation is discussed in Chapter 6 in detail.

**Table 5.4 PI sponsors in Pakistan's textile industry**

Name of organisation		Nature of organisation	Origin of shock	Level of impact
<b>New organisations</b>				
1	Cleaner Production Institute (CPI)	Local not-for-profit organisation	External shock: International pressure for environment friendly production	Multiple manufacturing sectors
2	National Textile University (NTU) Faisalabad	National public sector university	External shock: post-partition, no public institutions to produce skilled labour	National textile industry
3	Faisalabad Chamber of Commerce and Industry (FCCI)	Local chamber of commerce	Within the field: lack of effective representation of industries to the government	Businesses across district
4	Pakistan Textile Exporters Association (PTEA)	Sector-wide exporter's association	Within the field: lack of effective communication between industry and government	A segment of the textile industry
<b>Pre-existing organisations</b>				
5	WWF – Pakistan (WWF-Pak)	International non-governmental organisation	Within the field: lack of awareness and knowledge about environmental footprints	Textile sector and relevant PSOs
6	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	German bilateral development organisation	External to the field: Access to the EU market under GSP Plus status	Textile sector and relevant PSOs
7	USAID Small and Medium Enterprise Activity Project	International bilateral development organisation (USA)	Within the field: lack of financial assistance for business growth for SMEs	National textile industry

Source: Author's own

Intermediary organisations emerged because of multiple reasons: pressure from the international supply chain and multiple issues with formal institutions. The existing formal institutions lacks the infrastructure necessary for cleaner production, lags in upgrading labour and environmental standards of the sector to help it meet international requirements, lacks effective financial assistance for SMEs for business development, lacks effective channels of communication with the sector and its stakeholders, and has a weak structure of governance that should be protecting natural environment from industrial waste. These issues manifested in the form of 'institutional voids', that is, the absence of formal institutions necessary for working of markets (Mair

and Marti, 2009) and ‘institutional gaps’, that is, institutions performing less than expected (Kolk, 2014). The rest of this section presents a detailed explanation of the reasons for the emergence of PI sponsors and ends with a summary (Table 5.5) enlisting all the reasons for emergence.

### **5.2.1. An institutional void in manpower and technical support for the sector**

The partition of the Indian subcontinent into India and Pakistan in 1947 changed the landscape of textile industries in both countries<sup>22</sup>. Pakistan got only 14 of the 423 textile mills in united India (IBEF, 2020). The textiles skilled labour, source of raw material production and customer base of various textile products migrated across borders to the cities of Lahore, Pakistan and Amritsar, India (Talbot, 2007). Against this backdrop, textile manufacturers in Pakistan realised the need for indigenously trained skilled manpower and technical support for the sector but there were no public or private sector organisation(s) that could have addressed their emergent needs. Consequently, the now renowned public sector textile university in Pakistan, NTU (Subsection B.4) was established.

A group of visionary industrialists conceived the idea of establishing a textile institute of world fame, in the early 1950s, to address the void of skilled manpower and technical support in the sector. The industrialists networked with the governments of England and Punjab (GoPunjab) to lay the foundation of the Institute of Textile Technology (IIT) in Faisalabad in 1959, the first public sector textiles university in Pakistan, now known as NTU (Subsection B.4). A senior representative of Office of Research Innovation and Commercialisation (ORIC) shared that, “until 2013, NTU continued producing technical manpower for the sector, but after the National Textile Research Center was established in 2014, NTU started undertaking commercial R&D for the sector.” There were no other public sector textile research institutes to support the R&D needs of the industry. The Research Development and Advisory Cell (RDA) in the Ministry of Commerce was tasked with undertaking research for the sector, as it says on its website (RDA Cell, 2020), but its role remains limited to the mere collection and presentation of textile-related

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<sup>22</sup> Discussion about the dynamics of India’s textiles industry is beyond the scope of this study.

administrative information. “RDA Cell is a statistics institute that collects research-related stats. ... it is not at all a technical institute”, noted Director NTRC.

NTU is promoting technical support and undertaking R&D that not only fills in the void but also helps firms become clean and green. The NTRC at NTU undertakes commercial R&D for textile inputs, processes, and outputs of ‘basic textiles’ (e.g., low value-added textiles usually home textiles and apparel) and ‘advanced textiles’ (e.g., high value-added textiles such as technical and sustainable textiles). For instance, it has developed smart fabrics for energy harvesting, a banana fibre extraction machine (prototype), a ball fibre development machine and antimicrobial denim fabric (a non-exhaustive list of projects is presented in Appendix J). Alongside these sustainability-oriented projects are the customised technical solutions that are developed for firms to help them reduce their resources intake (e.g., use and repurpose natural resource inputs), improve their process efficiency (e.g., metering of flows) and audit their performance (e.g., customised systems for energy and environmental audits).

“In SME 3, we are undertaking an internet of things (IoT) project to minimise the cost of production and energy consumption. Also, we are doing a water filtration efficiency project that aims to reduce intake rejection of salt-rich groundwater from 40 to 20 percent.” (Director NTRC)

However, the caveat is that SMEs rarely consult NTRC because some (not all) of these firms who produce for the local market are relatively underexposed to external pressures such as regulatory pressure, customer pressure or societal pressure, said Director NTRC. It is in turn due to a lack of awareness and knowledge of better alternatives among consumers and producers. In all, NTU came forward to address the void through the production of skilled manpower, lending technical assistance, and undertaking commercial R&D for the sector.

### **5.2.2. An institutional void in cleaner production facilities for the sector**

Following the rise in awareness about environmental implications of economic development in 1972 when UN Conference on Human Environment was held and the



United Nations Environment Program was initiated, there was a growing awareness that businesses needed to adopt more environmentally responsible and resilient manufacturing methods in order to maintain their legitimacy and competitiveness in international markets.

Pakistan's textile sector also faced these challenges in form of compliance with international environmental standards, producing environment friendly products and using cleaner production processes and technologies. However, by the early 1990s there were still no public sector institutions established to address these demands. As a Senior Executive of CPI noted, "... virtually there was nobody (institution) to help with environmental engineering despite serious demand from the industry." Against this backdrop, one of the founding members of CPI (Subsection B.1) came forward in 1996 to capitalise on his experience and network with policymakers to establish an institute for environmental engineering. He lobbied with major representatives from four industries: sugar, paper, leather and textiles, but could not succeed until 2004 when the "Dutch embassy entrusted 'NEC Consultants' to build an institution (the CPI) which could take industries in Pakistan towards cleaner production and green businesses," said the CPI Manager.

Since its creation, CPI continues to help businesses of all sizes, especially SMEs, through awareness sessions, skills development programs, customised systems for environmental and energy audits and designing cleaner production solutions such as wastewater treatment plants. For instance, CPI did capacity building of textile firms to improve their compliance with national and international environmental standards (CPI, 2018b). Under two successive Programmes for Industrial Sustainable Development (PISD), PISD I (2007-2010) and PISD II (2010-2013), CPI assisted textile firms in adopting cleaner production technology, environmental management system (EMS), energy efficiencies technologies, wastewater treatment plants, CSR reporting and performance reports (CPI, 2013). After CPI, now a variety of consultancy organisations have come forward to help the textile industry become sustainable, a few to mention are *Waste Busters* and *Horivert ATM*.

### **5.2.3. An institutional gap in labour and environment standards in SMEs**

Upon securing Generalised System of Preferences (GSP) Plus Status<sup>23</sup> in 2014, Pakistan ratified conventions on labour and human rights, environment and climate protection and good governance. These standards were not only difficult for Pakistan's textile sector to comply with but also that the existing public institutions of Pakistan also lacked the capabilities and infrastructure to help the sector in this regard. This resulted in an institutional gap, to address which the government of Pakistan sought the help of the German government for capacity development of the textile sector and its related public sector institutions to help the sector achieve EU standards. A German bilateral development organisation that was already working in Pakistan, GIZ (Subsection B.3), was assigned these tasks.

The first project of GIZ, "Labour and Social Standards in Pakistan's Textile Sector" (2017-2020), was primarily focused on improving occupational health and safety and knowledge about labour standards among textile manufacturers. The second project, "Promoting sustainability in the Textiles and Garment Industry in Asia" FABRIC (2019-2023), developed a pool of knowledge of successful sustainable initiatives of Asian textile manufacturing countries and spread those across the region to promote fair production for people and the environment. It created a shared vision among relevant actors: manufacturers, employees, public sector organisations and civil society organisations and developed cooperation among manufacturers and international customers (private sector organisations such as Adidas) to develop solutions for sustainability issues, together. It forged inter-Asia network of producer association (STAR – Sustainable Textile of the Asia Region) under which it ran 'Asian Dialogues' (e.g., international conferences, workshops and events) that created awareness in firms about handling toxic chemical waste, passed on new knowledge about the EMS and disseminated new tried and tested sustainable practices across the region (GIZ, 2021b).

The third ongoing project, "Improvement of Labour and Environmental Standards in Pakistan's Textile Industry" TextILES (2021-2023) is working on following areas. First,

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<sup>23</sup> A GSP Plus status removes duties on exporters who are sending goods to the EU market.

improving cooperation between government and private actors for sustainable production and disseminating success cases across sector through Textile Industry Sustainability Forum which itself is a product of previous GIZ project. Second, capacity development of public sector organisations such as Environmental Protection Agency, Punjab (EPA Punjab) to improve their monitoring of compliances, evaluating environmental risks, lending consultancy services and developing new instruments for monitoring resource efficiency. Third, use Dialogue for Sustainability (DfS) to add to the sustainability-related services such as resource efficiency, chemical management training and change management (GIZ, 2022b). In sum, GIZ is playing an active role to help the textile sector to meet international labour and environmental standards through its support for public sector organisations, textile manufacturers and a support network of relevant stakeholders.

#### **5.2.4. An institutional gap in lowering industrial pollution of SMEs**

WWF – Pakistan (WWF-Pak) (Subsection B.2) expanded its scope to concern environmental implications of industrial pollution in the 1990s when it found that toxic industrial wastewater continues to contaminate our bodies of water. It raised concerns about manufacturing practices and technologies of the industrial sector and the state of environmental governance in Pakistan as expressed in the following quote from our discussion.

“In Faisalabad, you will see textile firms located across the public drains, some of which treat their wastewater before discharging to nearby public drain whereas others discharge toxic wastewater without any treatment into the same drain, eventually polluting the drain” (Senior Executive WWF-Pak)

Fieldwork has shown that large businesses (integrated textile mills) have installed pollution prevention and abating technologies because of international pressures, competitiveness or their personal values, but not all SMEs undertake such measures. SMEs selling to international markets install relevant technologies to minimise their impacts on the natural environment but some SMEs who are indirect/commercial

exporters<sup>24</sup> source environmental pollution because of their outdated practices and technologies. A vast majority of SMEs sell to the local market and among these firms, the preference is for installing primary treatment plants which are simple and economical but are constrained to reduce pollution by 20-30 percent, said a representative of CPI. The formal institutions, Ministry of Climate Change (MoCC) and provincial EPAs are tasked to prevent, abate and monitor environmental pollution but they are underperforming (Section 3.3) because, e.g., EPA Punjab lacks capacity, resources and a strict monitoring regime (World Bank, 2018, p. 5).

WWF-Pak is protecting the natural environment through its roles such as creating awareness about the environmental footprints of textile production, developing knowledge about clean and green alternatives, producing best practices manuals for manufacturers and feeding into policy work through its collaborations with national (e.g., CPI) and international organisations (ILO, UNEP). The extract below from a discussion with CEO WWF-Pak gives a glimpse of WWF-Pak collaboration for knowledge creation.

“...WWF-Pak has collaborations with National Textile University, Cotton Research Institute, International Water Management Institute for designing and promoting best working practices [among textile firms]”  
(CEO, WWF-Pak)

Textile industry stakeholders: business associations and bilateral development organisations acknowledge WWF-Pak’s role in awareness creation and knowledge development. Representatives of an intermediary organisation (CPI), Pakistan Textile Exporters Association (PTEA) and a participant firm (LSE 1) confirmed that WWF-Pak is actively working for textile manufacturers because others would do a few seminars or focus on large firms since that helps them secure new funds<sup>25</sup>. It is therefore argued that WWF-Pak continues to address the institutional gap in promoting environment friendly

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<sup>24</sup> Textile firms that sell their products to intermediary organisations who then export those products to international markets.

<sup>25</sup> I searched for other NGOs that could have been promoting sustainable production in SMEs but did not find any. Thus, WWF-Pak was the only NGO actively liaising with textile stakeholders.

practices and technologies in the most vulnerable segment of Pakistan's textile sector, the SMEs.

#### **5.2.5. An institutional gap in financial assistance for SMEs**

SMEs' access to formal sources of credit in Pakistan is challenging. Aazim (2021) reports that SMEs get only 8.7 percent of the total lending that Pakistani banks make to all private sector businesses. Even credit-rationed SMEs willing to borrow more at the prevailing interest rate do not have access to finance and textile SMEs are not an exception (Bari and Faheem, 2005). Textile SMEs tend to rely on informal credit sources<sup>26</sup> that are readily available on easy terms as compared to formal credit sources which are difficult in terms of documentation, complicated procedures, collateral requirement and red-tapism (Qadir Adnan, 2005, p. 81). The informal credit sources are generally open to firms who are known to everyone across the network of informal credit sources and the rate of interest charged on that credit is comparatively higher than formal sources. Therefore, SMEs in need of financial assistance, e.g., for international certifications or technological upgradation would either have to undergo complex procedures and red-tapism of formal sources or they would have to first establish 'trust' in the network of informal sources to secure the credit. This leaves an institutional gap for SMEs seeking financial assistance.

USAID Project SMEA (Subsection B.5) shared cost of business development services of SMEs. "Almost 90 plus SMEs changed their working practices after we trained their employees and managerial staff", noted a representative of SMEA. Similar observations have been made by one of the industry experts (IEs) interviewed in this study. The expert who also is a third-party auditor of firms vending for international brands shared that SMEA has not only helped resource and capacity constrained SMEs aspiring to join international market, but it has also supported intermediaries, e.g., *Waste Busters* in developing mobile application for efficient collection of waste.

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<sup>26</sup> Contrary to formal credit sources, the contracts or agreements in an Informal credit source are conducted without official regulations or monitoring.

In all, the above evidence suggests that SMEA Project has worked on addressing the institutional gap in financial assistance that SMEs require to meet international market standards. However, the scope of the project was limited to legally registered SMEs aspiring to join the international market whereas a significant share of textile SMEs that produce for the domestic market also need assistance in standardising their production.

#### **5.2.6. An institutional gap in communication between industry and stakeholders**

Individual or small groups of firms were not powerful enough to communicate their feedback on the government's rules and policies affecting the textile sector to formal institutions. In the latter half of the 1980s, the need for national-level platforms where textile manufacturers could present and discuss their issues with fellow manufacturers and develop an agenda to be taken up with respective public offices. To that end, voluntary sector organisations: chambers of commerce and industry associations emerged to communicate between the sector and its stakeholders.

“Renowned industrialists established FCCI in 1975 for the business community to discuss and resolve their issues with the government. It now also helps in buying cheap technology, drafts policies and promotes greening of businesses.” (Secretary FCCI)

The FCCI represent all industries in Faisalabad, the majority of which were textile manufacturers with a focus on business development. The chamber now has sustainability-related roles such as ‘Standing Committees’ that think through problems and advise changes to policies for the betterment of the industry, feeding back to draft policies and creating awareness of the environmental implications of businesses among sectors. However, such roles became part of FCCI. Meanwhile, individual industry associations emerged to communicate their concerns. “In 1985, pioneers [in the textile sector] established [PTEA] to discuss their problems, develop consensus, suggest reforms and support business”, said secretary PTEA.

PTEA helps its members in communicating their export-related issues such as pilferage, tariffs, customs, taxation and installation of expensive pollution-abating technologies to relevant embassies and public sector organisations. PTEA also helps public organisations in spreading their message across the sector, e.g., compliance with PEQS. However, a firm has to be a direct or indirect exporter to become a member of PTEA but a vast majority of SMEs selling to the domestic market could not qualify for PTEA. Therefore, six years later, in 1991, two more associations: All Pakistan Textile Mills Association (APTMA) and All Pakistan Textile Processing Mills Association (APTPMA), started communicating for all types of mills, irrespective of their export status. These associations and chambers also act as gatekeepers of the sector and a source of knowledge and information.

**Table 5.5 Summary of reasons for the emergence of PI sponsors**

<b>Sr.</b>	<b>A brief about the reason</b>	<b>Void/gap</b>
1	Absence of a CPI in the industry despite serious demand from the industry.	Institutional Void
2	Absence of an institution that could replace expensive international skilled and technical manpower with local manpower and assist in technical and research issues.	
3	Lack of awareness and knowledge about the hazardous impact of industrial waste on wildlife.	Institutional Gap
4	Lack of financing facility for SMEs who aspire to standardise their business as a preparation to enter the international market.	
5	Lack of effective communication between industry and stakeholders, including the public sector.	
6	Lack of institutions that could help upgrade social, labour and environmental standards as per conventions signed and ratified during the grant of GSP Plus status to Pakistan.	

Source: Author's own

Through these platforms, third-sector organisations concerning the natural environment, e.g., WWF-Pak and CPI have been arranging awareness creation seminars and skills development workshops to spread their message across the sector – reduce environmental footprints and adopt cleaner alternatives. However, it should be noted that these associations and chambers are not self-driven for environmental causes (not in the objectives of any of these organisations) so they only liaise with stakeholders to facilitate creating awareness and imparting knowledge about environmental issues to

the sector. The following Table 5.5 presents a summary of reasons for the emergence of PI sponsors that are discussed in this section, broadly classified into two themes.

First – institutional voids in cleaner production and indigenously trained skilled human resource for the sector. Second – institutional gaps in public institutional arrangement for awareness and knowledge, financial assistance, skills development and communication between industry and government. Intermediaries who emerged to address these issues have evolved to compensate for the voids and gaps in promoting sustainable environmental practices in the sector. The next section presents their evolution and development into PI sponsors.

### **5.3. Processes of emergence and evolution of PI sponsors**

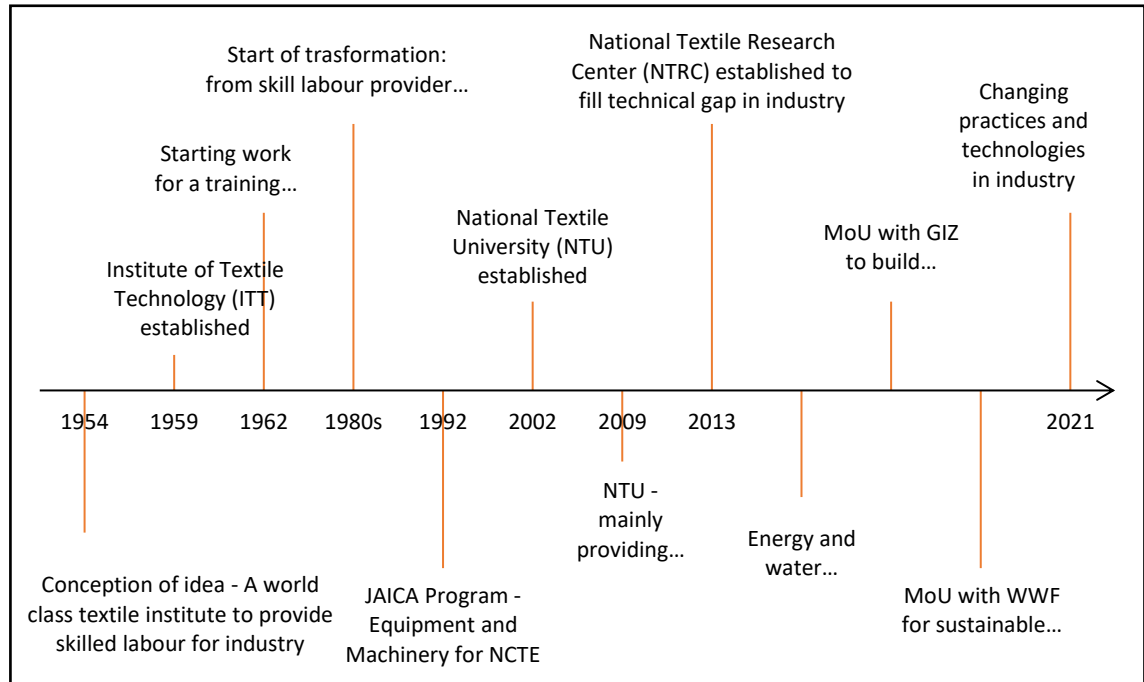
The national and international intermediary organisations, now functioning as PI sponsors, have emerged and developed into their present outlook after undergoing several events and processes. This section traces the development of each sponsor through timelines and enlisting of major factors that contributed to or hindered their emergence and growth. As intermediaries become PI sponsors, network diagrams provide insight into stakeholders' roles.

#### **5.3.1. National Textile University Faisalabad (Established 2002)**

The NTU Faisalabad (Subsection B.1) evolved into its present outlook from the crude idea of leading textile industrialists who collaborated on this in 1954 and continued their efforts to establish the Institute of Textile Technology (ITT). ITT was established in Faisalabad in 1959 with financial, technical, and logistical support from the Government of England, Government of Punjab, and large textile mills. The Government of Punjab gave 62 acres of land free of cost; the Government of England gave equipment, machinery, and experts; and large textile mills contributed Rs 2.5 million for building and infrastructure. A board of trustees, including representatives from both the government and industry, was established to administer ITT and fund its expenses (NTU, 2021a). The institute continued producing skilled manpower for the industry with its faculty from Pakistan and the UK. Figure 5.1 below presents a timeline of events depicting the process of emerging NTU as a PI sponsor.



**Figure 5.1 Emergence of NTRC as a PI sponsor**



Source: Author's formulation

In 1962, IIT was to undergo an upgrade from its role of human resource provider to the technical support centre, and some of its faculty members were sent to the UK for training, said Director ORIC. The institute was upgraded to the National College of Textile Engineering (NCTE) in 1965, but its role remained the same – producing cheap manpower for the sector to reduce the hiring cost of expensive skilled labour from the UK. Even though NCTE (previously ITT) was producing a skilled labour force for the sector, it was impacting working practices and processes in the sector because of being the only source of a skilled labour force for the textile industry.

NCTE started lending technical and industrial support to the sector when “people from the industry (with practical experience) joined NCTE in the 1980s”, said Director ORIC. The external shocks: ‘textiles led industrialisation’ in the 1990s (Hamid et al., 2014) and the opportunities for importing cheap inputs under import liberalisation (Hussain et al., 2013) gave a boost to the textile sector. Furthermore, NCTE was able to provide a broad range of technical manpower to the sector through the transfer of knowledge from industry to academia, and the comprehensive assistance from Japan in 1992 under the JAICA Program that provided equipment and machinery for all departments (tuning to

650 million Yen). As a senior representative of ORIC shared, “during the boost time, we saw opportunities in exploring new markets and modern textiles. So, we set our goals to support the production of sustainable and technical textiles and clothing”. A decade later, in November 2002, NCTE was upgraded to a national public sector university for textile-related degrees, the NTU Faisalabad. The university continued as an academic institution before turning into an institution for industrial services because it lacked the research and development infrastructure needed for commercial research.

Finally, with the establishment of the NTRC in 2013, NTU started to add value to the sector through its consultancy services for resource efficiency, sustainable and technical textiles development and commercial R&D. It was learned from NTRC representative that the Center also assists firms with problem-solving on the floor, conducts environmental and energy audits, develops EMS tailored to their needs, and provides ancillary services to improve their sustainability and circularity. According to the following quote, NTRC has started developing a super sustainable fibre (hemp fibre) for research and commercial applications.

“... hemp, a super sustainable and naturally antimicrobial fibre, we intend to grow a whole new industry of its fibre, worth 20 billion USD that is far greater than 12 billion USD of existing industry.” (Director NTRC)

In all, the industrialists collaborating on setting up a training institute, its transformation into a human resource provider and technical assisting organisation, forging industry and academia linkage and its continued collaboration with international actors, explain the emergence and evolution of NTRC as a PI sponsor. The following subsection explores the NTRC network and factors that affected the emergence and development of NTRC into PI sponsor.

#### **5.3.1.1 Networking of NTRC**

Soon after its establishment, NTRC is continuing to promote sustainable practices, sustainable products, and resource-efficient technologies among textile manufacturers

through its network. The following subsections describe NTRC network with industry, government and third-sector organisations.

***a. Textile sector and academia***

NTRC and industry linkage has developed over the course of time. Before NTRC was established, the textile sector did not have any dedicated public sector organisation that would extend research and technical support necessary for maintaining international competitiveness, e.g., support in developing customised solutions, troubleshooting product development issues, and developing and testing new fibres. A senior representative of ORIC at NTU shared that “India has more than 30 textile research centres, but we didn’t have any [before the creation of NTRC]”. Soon after NTRC was established, the textile industry started benefiting from the Center in various ways such as technical assistance, commercial R&D and the development of customised solutions, on a project-to-project basis. NTRC roles will be discussed in Subsection 6.1.1 to keep the discussion focused on the objective of this chapter – to investigate how intermediaries became PI sponsors.

The progression of NTRC in its networking with large and small firms does indicate that it is promoting pro-environment changes in the working practices and technologies of its clients across the sector. NTRC has signed MOUs with renowned large businesses such as BASF Corporation, and Crescent Bahuman Ltd to collaborate in research and development for them while keeping sustainability in perspective (NTU, 2021c, p. 05). Recently, it has started liaising with SMEs for technical services, e.g., product development, fabric testing and on-the-floor technical solutions and non-technical services, including environmental and energy audits, and international certifications. During this study’s fieldwork, it was discovered that NTRC was improving air distribution efficiency, energy efficiency, and water filtration efficiency in SME 3. Similarly, NTRC arranges workshops and sessions to promote resource efficiency in the sector ‘Textile waste recycling’, ‘Implementation of leans in textiles’ and a GIZ-led seminar, ‘Top ten issues in chemical management and textile wastewater flows and pollution loads’ (NTU, 2021c). All of the above activities indicate that NTRC and industry linkage has provided

NTRC with ample opportunity to promote environment friendly changes to working practices, resource-efficient tweaks to machines and commercial R&D for its clients.

***b. International organisations***

The collaborative networking between international third-sector organisations and NTRC has been less frequent, at least in terms of leveraging the NTRC R&D infrastructure for textile manufacturers. However, frequent collaborations of international third-sector organisations (e.g., GIZ and WWF-Pak) and NTRC have been promoting sustainability in the sector. For instance, GIZ has collaborated with NTRC to build model textile industries – “we are working for GIZ to build model industries where sustainability could be practised” (Director NTRC). Similarly, GIZ and WWF-Pak have collaborated to promote international standards among textiles manufacturers, as a Senior Executive WWF-Pak shared, “our network includes national and international organisations such as Cotton Research Institute, National Textile Research Center... German Research Institute and others.” NTRC international conference on technical textiles with the collaboration of GIZ, WWF and other national stakeholders (NTU, 2020b, p. 18); a one-day seminar on chemical management, textile wastewater loads and pollution management with the collaboration of GIZ for industry, faculty and students (NTU, 2020a, p. 17); a seminar on the labour and environmental standards in the textile industry with the collaboration of GIZ for industry and students (NTU, 2021c, p. 7). These instances of collaborative networking imply that NTRC infrastructure and its close connection within the sector are adding value to the NTRC’s potential in becoming PI sponsor.

***c. Public sector***

The NTRC has recently formed partnerships with the public sector, including a quality assurance workshop organised for government officers for effective monitoring of the sector (NTU, 2021d, p. 15). Similarly, R&D is one of the objectives of the RDC Wing established in the Ministry of Commerce and Industries, but NTRC handles most textile research technical matters and assists the Ministry in certain textile research projects, a senior representative of ORIC said in the discussion. These instances indicate that the

research and development infrastructure of NTRC is impacting environmental governance and textile R&D in the contextual setting of this study.

In all, the abovementioned network shows that NTRC has emerged as a prominent public sector whose network holds greater importance in addressing the human resource gap, technical gap and awareness gap in the textile industry. A brief overview of the factors affecting the NTRC becoming a PI sponsor is presented in Text Box 5.1 below.

**Text Box 5.1 Factors affecting NTRC becoming PI sponsor**

**Conductive factors**

1. There was an organisational transition from being just a human resource provider to a research-oriented organisation.
2. A technical gap existed in the industry because there was no organisation of national stature working on much-needed R&D in the industry. NTRC started to fill the gap by taking industry towards value addition.
3. Industry collaborated with NTRC for product design, development and testing.
4. A collaborative network of NTRC with national and international organisations working for the textile industry in Pakistan started to develop.

**Obstructive factors**

1. In all its forms, NTU lacked research-related infrastructure until the recent past when our government started considering NTU as a research institute.
2. Normally large firms or exporting firms of any size benefit from NTRC, whereas SMEs rarely visit NTRC.
3. Firms are mostly unaware of sustainable practices, as there is no pressure on them to become environment friendly.
4. Local customers do not require firms to meet certain standards just like international customers do, so local customers lack awareness about requiring producers to meet certain environmental standards.

Source: Author's own

This shows that NTU's transition towards a research-oriented organisation through its collaboration with industry and other organisations of national and international stature helped this intermediary to assume a proto-institutional sponsor role whereas the factors that obstructed in assuming such roles were weak research infrastructure, limited engagement of SMEs and low level of awareness about sustainable practices in

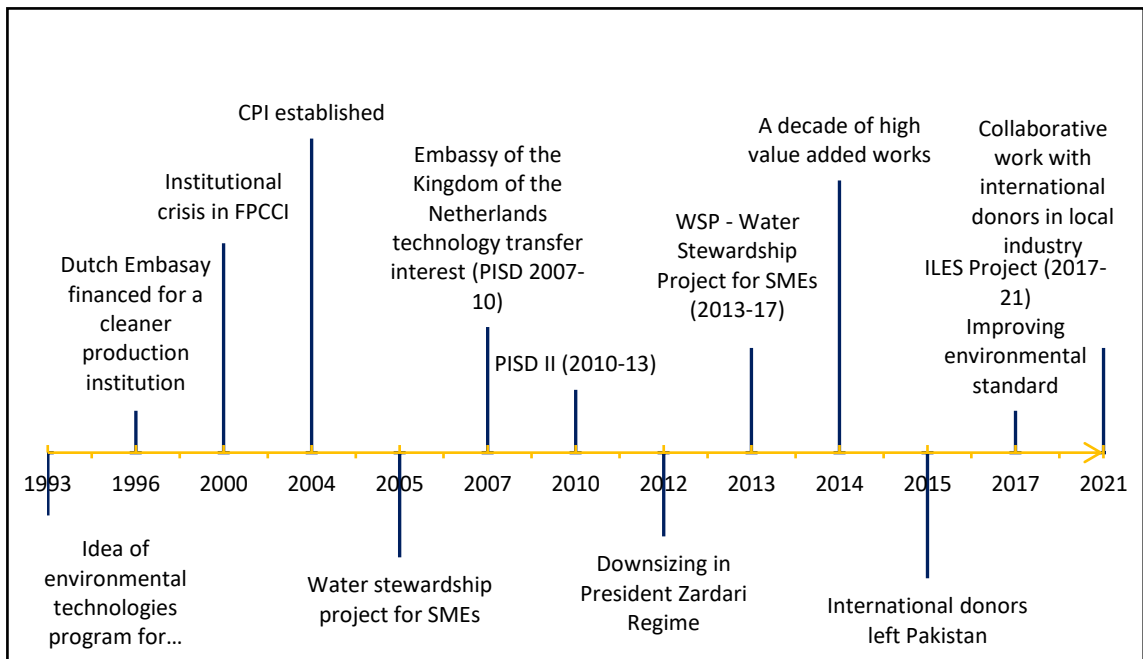
firms. This finding may be of value to policy makers intending to support proto-institutional sponsors in Pakistan or in contexts like this study.

### **5.3.2. Cleaner Production Institute (Established 2004)**

The CPI (Subsection B.1) is among a few organisations that cater to the cleaner production needs of SMEs and a very few of large firms in the sector since large-scale firms usually have their in-house facilities such as compliances and R&D departments while SMEs do not. CPI is undertaking multiple activities to promote cleaner production in the sector such as awareness seminars, training employees, designing and customising cleaner solutions, transferring cleaner technology, conducting environmental and energy audits, developing collaborative networks and impacting policy developments relating to environmental protection. “CPI is like a mechanics’ workshop... we fix issues that industries bring to us”, said a founding member of CPI.

CPI’s awareness sessions help manufacturers know about the best practices and technologies to adopt to become more compliant and profitable. For instance, resource-efficient working practices like water efficiency, energy efficiency or chemical management systems minimise inputs and maximise outputs. CPI’s technology transfer service helps firms add value to their products, reduce wastages and fetch more business from international clients. CPI’s cleaner solutions help firms modify or upgrade their existing technology (knowledge of transferring inputs to outputs) which also improves their compliance and business volume. The success of CPI in bringing such changes relies on its communication skills, the performance of its proposed cleaner production solutions and a higher rate of return from cleaner solutions that firms have adopted. CPI’s services depict the PI sponsor role since these services are changing working practices, rules, and technologies in the sector and helping firms to comply with national and international environmental standards. Though, how, has CPI emerged and developed into its existing state to address the gap of cleaner production technologies in the textile sector of Pakistan? Figure 5.2 on next page presents is an overview of major events which describe this journey.

**Figure 5.2 Emergence of CPI as a PI sponsor**



Source: Author's formulation

In the early 1990s, one of the founding members of CPI conceived the idea of establishing a consultancy organisation for environmental development in Pakistan – National Environmental Consulting Private Limited, established in 1993 (NEC Consultants, 2020). About three years later, NEC Consultant collaborated with the Embassy of the Kingdom of the Netherlands to establish a CPI to help shift the focus of manufacturers from ‘pollution controlling measures’ (the end of the pipe solutions for treating effluent discharge) to ‘pollution preventing measures’ (cleaner production through better housekeeping, better control over the process, recovery at production site and useful by-products). NEC Consultants, being popular for its environmental engineering consultancy and networking with policy and industry stakeholders, proposed establishing an institute within the Federation of Pakistan Chambers of Commerce & Industry (FPCCI) Pakistan so that all segments in Pakistan’s manufacturing sector could benefit from the facility. However, the idea did not materialise because of the internal politics, new leadership and unstandardised procedures in FPCCI.

The political differences within the FPCCI were because the manufacturers were not willing to bear the extra cost of practices and technologies needed for cleaner

production, said a senior representative of CPI. The new leadership of the chamber was dominated by traders rather than manufacturers, so they had a relatively poor understanding of new emergent aspects – resource efficiency, environmental efficiency, and cleaner production. The new leadership may have been insensitive to the international pressures on manufacturers to adopt national and international labour and environmental standards. Therefore, the idea of establishing a CPI was dropped in the year 2000 while NEC continued to advance environmental technologies in the industry.

“...renowned industrialists from four industries proposed me to establish an independent institute if that is not possible under FPCCI... The Cleaner Production Institute was established due to the institutional failure of FPCCI.” (Founding Member CPI)

As soon as prominent industrialists of four sectors expressed their support for an independent cleaner production institute, the founding members of CPI started assessing the needs of the sector and the services to be offered (developing new technologies or transferring the pre-existing best-known). It was agreed that instead of developing new solutions, which are difficult for CPI. Being a not-for-profit organisation, CPI would transfer technology from elsewhere in the world to the industries in Pakistan. Also, it was decided that the board of management of CPI would have four industrialists and four technocrats to represent four industries (sugar, leather, paper, textiles) and carry out effective discussions about what services would be offered to each industry. The reasons for keeping technocrats on the board were, “the four technocrats on board were environmentalists, chemical engineers... trained by NEC from 1993-2004 ... possessed vast knowledge of their field [and] were better placed to convince manufacturers for cleaner solutions.”

CPI rolled out the Cleaner Technology Program (CTP) for the Textile Sector of Pakistan (2004-2007) in collaboration with the Embassy of the Kingdom of the Netherlands – Islamabad for helping the textile industry retain its share in the international market by complying with national and international environmental legislation (NEC Consultants,



2020, p. 34). CPI outsourced the project to NEC Consultants whereas it kept going with the businesses that four members of the management board who were representing their respective sectors – textile, leather, sugar and paper, brought to CPI. Then, in the year 2008, The Embassy of the Kingdom of the Netherlands came with a profoundly serious interest in promoting their and the EU's technologies in Pakistan. To that end, CPI did a few demonstration projects for introducing EU technology in the textile, leather, paper, and sugar industries. Afterwards, CPI carried on projects funded by international donors along with a small volume of work that used to come from local industries.

CPI served more than 400 industries with a complete package: cleaner production, energy efficiency, resource efficiency, and wastewater treatment plants for the industries of Pakistan. CPI saw many of its competitors entering the market since its inception in 2004 but it continued with high value-added work in a niche market, and that worked for it. In 2012, under the regime of President Asif Ali Zardari, CPI had to lay off many employees to remain viable. Upon crossing the 1400 USD per capita limit at the end of 2015, Pakistan was disqualified from donors' grants and as a consequence CPI fell to 60 people. With time, CPI forged collaborations with World Bank, Asian Development Bank, KfW Bank and European Union Bank to work further on cleaner production in Pakistan. Now, approximately 200 industries of various sectors are working with CPI for cleaner production (NEC Consultants, 2020). In words of senior executive of CPI, "Now, we are working with WWF-Pakistan on a similar type of project aiming to support 75 industries in the leather and textile sector. We are also in negotiation with the EU for a project for rice mills where dust pollution is a problem."

In all, the above narration presented three major transitions in the emergence process of CPI. First, NEC Consultants collaborated with the Dutch Embassy to establish an institute for addressing the institutional void of cleaner production in Pakistan, but changes in FPCCI leadership and its bleak knowledge about cleaner production, internal politics, and unstandardised practices, kept the idea unrealised. Second, representatives from textiles, leather, sugar and paper industries collaborated with CPI founding members and successfully established a not-for-profit CPI. Third, CPI and textile sector

stakeholders networked to promote cleaner production in the sector but its scope and activities scaled down due to inconsistent financial assistance, a finding in line with Kanda et al. (2018). The next subsection presents a detailed look into the networking activities of CPI to promote cleaner production in the sector.

#### **5.3.2.1 Network of CPI**

CPI is a non-governmental and not-for-profit organisation that collaborates with Pakistan's manufacturing industry, the public sector and the voluntary sector for technical and non-technical consultancy services or to conduct funded projects to promote cleaner production. This section elaborates on the network that has helped CPI grow into PI sponsor promoting sustainable environmental practices in the contextual settings of this study.

##### ***a. Textile sector and its associations***

Since its inception, representatives of industry association were members of the committee that manages CPI. Not just that, an institutional wing of CPI that comprises independent steering committees for each of the four industries (textile, sugar, paper, and leather), is constituted to forge a strong network between CPI and industries in Pakistan. "[CPI] institutional wing communicates with people who really understand – steering committees in other business associations" (Founding Member CPI) For instance, the CPI textile sector steering committee interacts with APTMA steering committees for educating about or supporting environmental engineering or cleaner production. This network has helped practice effective communications, "a lesson learned hard from the divorce of FPCCI", (Founding Member CPI).

It was rare to see industry associations Initiating collaborative activities with CPI on their own because they are constrained in terms of their scope, capacity and resources, but "the only good feature of associations is their [logistic] support in completing projects for their industries" said General Manager CPI. APTMA has helped CPI in communicating its projects and solutions across the industry; identifying and accessing firms who qualify eligibility criteria of a project; and liaising with technical people of eligible firms to invite them for training.

“let’s say if 100 participants came for training then top management of at least 15 industries asked for individual meetings, invited us to visit their factories and demonstrate our services on the floor” (CPI Founding Member)

Through its workshops, training, seminars and the word of mouth, CPI has progressed in introducing and promoting cleaner practices and technologies in the sector through activities such as developing customised EMS, designing treatment plants, installing chemical recovery plants (such details are left for Chapter 6, which explores PI sponsor roles in detail). Overall, these activities show that CPI is working as PI sponsor of skills, practices and technologies for resource efficiency and cleaner production in the sector through its collaborative networking for the industry.

***b. International donors and voluntary sector organisations***

The founding member promoted CPI across all of Pakistan’s industries and upstream to donor agencies to promote cleaner manufacturing. In several business forums in Europe, the CEO of CPI discussed Pakistan’s size and range of products, its clean production and research and development needs, its potential for foreign investment, and the reasons why people should invest in Pakistan. CPI remains committed to establishing relationships with advocacy organisations and activist forums, including WWF-Pakistan.

“We should be revealing our emotions to such advocacy organisations.”  
(Founding Member CPI)

Recently, CPI has collaborated with WWF-Pak in the International Labour and Environmental Standards Application in Pakistan’s SMEs (ILES) Project (2016-2022) to conduct environmental audits and training and assistance to SMEs for alliance for water stewardship certification (ILO, 2021, p. 38). Similarly, CPI and WWF-Pak are working on a project to support 75 industries in the leather and textile sectors. General Manager

CPI shared that “WWF-Pak is a good and an effective organisation and there are no other organisations alike WWF-Pak except for CPI”.

CPI and its sister organisation NEC Consultants developed a strong collaborative network with Royal Haskoning, a serious, hundred-year-old Dutch Company that has a strong knowledge base and acclaimed environmental engineering services. Over a decade of relations, CPI and NEC have learned the knowledge and skills of designing environmental engineering services and successfully implementing them in the industry. In the words of CPI founding member, “We were sort of Haskoning in Pakistan”. These instances imply that networking with voluntary sector organisations has enabled CPI to promote sustainable practices in the sector.

### ***c. Public sector organisations***

The third set of collaboration was with government officials. CPI has been pressing hard for promoting resource efficiency, and cleaner production in policy documents concerning energy and the environment. It started engaging in policy work through “... my personal rapport with bureaucrats and policymakers that I built during my career as policy maker”, said a CPI founding member. Initially, it was difficult to collaborate with the government because public office representatives used to prioritise their parochial interest over CPI’s efforts for cleaner production. For instance, “Government officers used to ask us what is for them in their proposals so CPI could not close a deal”, said a founding member of CPI. Later, CPI signed several agreements with governments, e.g., capacity building of EPA Punjab for effective monitoring of brickworks or transferring zig-zag technology to brick kilns. In relation to textile sector, CPI advises the government on cleaner production, as and when required, free of charge.

CPI has marked its presence in policy work through its work for Government of Punjab – designing the Eco-Industrial Park framework for *Sundar Industrial Estate Lahore* and *Quid-e-Azam Industrial Estate* under the Dutch-financed Programme for Industrial Sustainable Development, Phase II (2010–13). It proposed environmental planning and management, resource efficiency and cleaner production (RECP), and eco-industrial park characteristics, e.g., share management of pollution/waste management

infrastructure; exchanging by-products and waste heat among firms; using renewable energy (World Bank, 2021b, p. 24). Similarly, both CPI feedback on the draft National Environmental Policy (2005) and its consultation for cleaner production in the World Bank project 'Sustainable Industrial in Punjab' (World Bank, 2019) represent the process of development of CPI into a PI sponsor promoting cleaner production in Punjab's manufacturing sector, which is home to the vast majority of Pakistan's textile manufacturers. The Text Box 5.2 below sheds light on factors that affected the emergence and development of CPI as a PI sponsor of environmental engineering / cleaner production in the sector.

### **Text Box 5.2 Factors affecting CPI becoming PI sponsor**

#### **Conducive factors**

1. CPI founding member's personal stakes in becoming a successful professional.
2. Institutional void despite rising demand for cleaner production support for industries.
3. Strong network of founding member with industries and policymakers.
4. Improving credibility of CPI for having renowned industrialists on board.
5. Expert technocrats and staff customising solutions to needs of industries.
6. Knowledge and skills transfer from Royal Haskoning to CPI staff.

#### **Obstructive factors**

1. Manufacturers' mindset for cleaner production idea was less supportive.
2. Infeasible economic situation for industry to experiment cleaner production solutions that usually have high upfront cost because of global recession, economic sanctions on Pakistan and volatile demand for textiles.
3. Inadequate financing facility for firms to adopt cleaner production solutions e.g., effluent treatment plant is expensive to install, has low rate of return therefore less attractive investment.
4. Ineffective environmental governance: the apparent compliances are due to pressure from international customers, among other factors.

Source: Author's own

The box shows that an institutional void for cleaner production in Pakistan's textile sector, the personal stakes of founding members, knowledge transfer from Royal Haskoning, strong network with stakeholders and the expertise of technocrats and staff in customizing solutions helped CPI in becoming proto-institutional sponsor. However,

the factors that hindered this process were economic and non-economic challenges of manufacturers, inadequate financing options and weak infrastructure of environmental governance. Overall, CPI networks represent collaborations through which CPI emerged to address the institution void of cleaner production for the textile sector in Pakistan. Although new organisations have emerged to perform like CPI, they are either ‘for profit’, concern ‘large size businesses’ or are restricted to ‘awareness work’ only. CPI continues with its consultancy services for pro-environmental changes in textile manufacturing, especially in “SMEs” (emphasis added) because stakeholders opined that voluntary sector organisations prefer working with large businesses that are easier to convince, already under internal customer pressure for compliance and are also rich in resources necessary for cleaner technologies. SMEs are not miniatures of large firms (Tilley, 2000) so only a few organisations prefer transforming SMEs in favour of the natural environment.

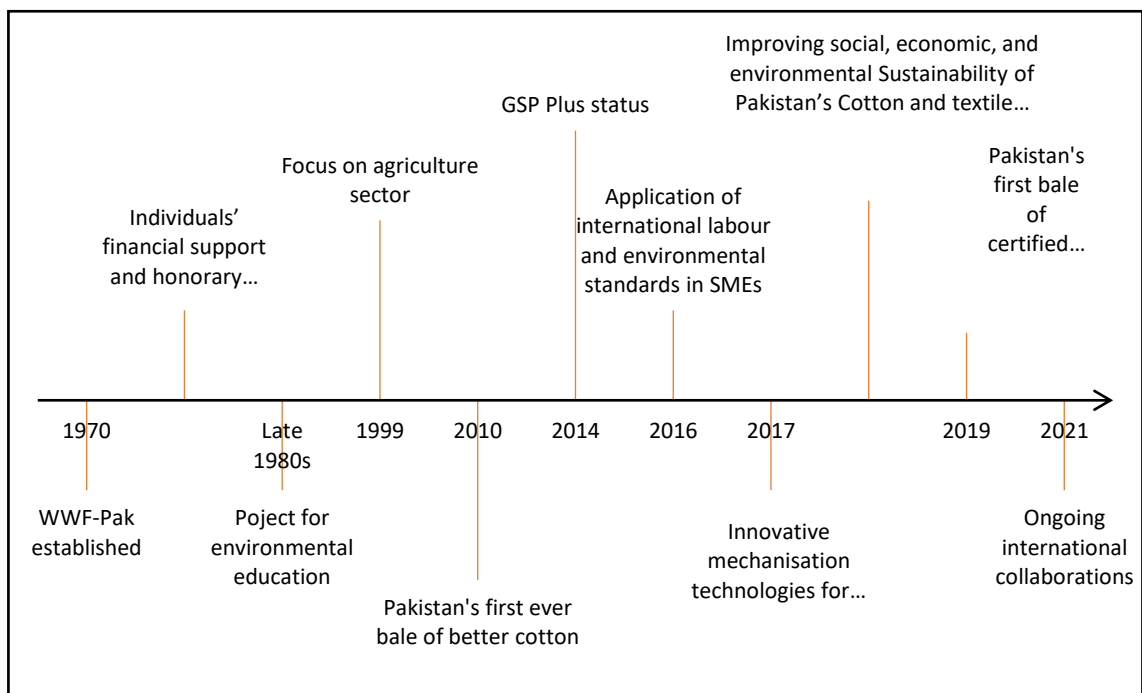
### **5.3.3. WWF-Pakistan (Established 1970)**

In 1999, WWF-Pak broadened its focus to include the agriculture sector upon realising that toxic inputs and industrial waste are sources of environmental degradation. WWF-Pak pioneered Better Cotton Initiative (BCI), reducing the use of chemical pesticides and fertilisers in cotton production in Pakistan (Better Cotton, 2019). WWF-Pak undertook projects to advance environment friendly transformations in Pakistan’s textile and leather industry (WWF Pakistan, 2017, Farooq, 2018, Noor et al., 2018, WWF Pakistan, 2020). Currently, it is undertaking various projects to advance sustainable practices and cleaner inputs in the textile sector of Pakistan, e.g., ‘Adopting Innovative Mechanisation Technologies for Sustainable Cotton Production in Pakistan’, ‘Better Cotton Initiative – Growth & Innovation Fund’ and ‘International Labour and Environmental Standards Application in Pakistan’s SMEs’ (WWF Pakistan, 2020). Figure 5.3 is a summary view of major events which happened in process of WWF-Pak becoming a PI sponsor.

To bridge the awareness and knowledge gaps between the government and the general population and meet the growing conservation challenges, WWF-Pakistan was founded in 1970 to create a future where people can live in harmony with the surrounding

environment (WWF Pakistan, 2020). WWF-Pak has graduated from a small organisation that mainly relied on individuals for financial and honorary scientific inputs in its initial 15 years. WWF-Pak broadened its aim from conservation to reducing pollution and promoting sustainable usage of renewable natural resources and energy. WWF-Pak started its first project for environmental education in Pakistan in the late 1980s. Later, it started working in the agriculture sector because there were resource wastages and damaging environmental practices.

**Figure 5.3 Emergence of WWF-Pak as a PI sponsor**



Source: Author's formulation

In 1999 WWF-Pak contacted its international office and secured funding for a better cotton project. Six years later, in 2005, Senior Executives in WWF-Pak started capitalising on WWF's global partnership with IKEA and secured funding for the BCI project. One year later, the same project was replicated in India. After the BCI, another project was implemented for ginneries in Pakistan's textile industry because they were wasting many resources such as energy and water. WWF-Pak wanted to help them with it. WWF-Pak remained successful in this project to a reasonable extent.

“[We] realised, e.g., that marine life is being affected by waste being flushed out in the water by industries, or when we realised that bees are being affected by kind of pesticides being sprinkled on the cotton crop by the farmers”. (Manager WWF-Pak)

The first-ever bale of better cotton was produced in 2010. The industry welcomed it because textile exporters would now meet international environmental standards, but they also have a competitive edge over other manufacturers. Four years later, in 2014, Pakistan got GSP Plus status, which gave industries in Pakistan better access to the European Markets, but Pakistani exporters would now have to meet international labour and environmental standards. To that end, WWF-Pak and the International Labour Organisation (ILO) collaborated on an EU-funded project in 2016 to improve the industrial sector’s competitiveness and strengthen the public sector’s capacity to implement multilateral environmental agreements (MEAs) and national environmental laws and standards in Pakistan (ILO, 2021).

“WWF-Pak partnered with the International Labour Organisation (ILO) in the EU-funded project wherein the former will work on capacity building of the industry on environment-related issues, and the latter will focus on decent work, occupational health and safety and other ancillary issues”. (Manager WWF-Pak)

Since then, WWF-Pak has collaborated with industry and international donors to protect the environment by addressing the input, processing and output sides of textile production. All the efforts mentioned here indicate the efforts that WWF-Pak is putting in to transform existing technologies and practices into environment friendly technologies and practices in manufacturers, particularly SMEs. A few projects to mention are applying international labour and environmental standards in SMEs: innovative mechanisation technologies for sustainable cotton production and improving the social, economic, and environmental sustainability of Pakistan’s cotton and textile sector in Punjab and Sindh.



### **5.3.3.1 Network of WWF-Pak**

WWF-Pak network with relevant stakeholders to achieve its objective: address knowledge gap, awareness gap, and sustainable practices gaps in Pakistan's textile sector, among others. To do so, 'WWF-Pak believe in partnering with different organisations to achieve our objectives', said a senior executive. The following subsections present a description of networks that WWF-Pak forged with stakeholders to achieve its objectives.

#### ***a. Textile sector and its associations***

Senior Executive WWF-Pak categorised textile firms into four segments based on their attitude towards environmental compliance. First, exporters must comply because of external pressure from their buyers. Second, vendors of international brands must meet prescribed standards. Otherwise, they will lose their customers. Third, progressive manufacturers value the notion of care for the environment and urge to adopt better practices to become even more competitive in the market. Fourth, the largest segment comprises firms who always lament: Government policies are not supportive, taxes are high, subsidies are low, and the government should install combined treatment plants. Even though relevant authorities address some of their concerns, they still fail to comply with prescribed standards.

The first three segments were easy to network with because they value the environment and appreciated the idea of better cotton and concepts like resource-efficient procedures and environment friendly technologies. At the same time, the fourth segment was difficult to network with because they do not value the environment. The Manager WWF-Pak said, "when talking to industry, we noted that firms are not concerned about the environment. Rather they are concerned with their products and profits. Even making business cases would not change their perception". Now, WWF-Pak has a strong network with the industry since it has become more understanding and competitive. An illustration of this is,

“In the last couple of days, I have received many calls from four brands who want to record our observation about their compliances. Even one has sent a cameraman to record a short clip.” (Senior Executive WWF-Pak).

Associations believed in promoting care for the environment and agreed to the assertions of WWF-Pak, but they perceived multiple challenges in the convincing textile industry to care for the environment. WWF-Pak collaborated with business associations to push the industry towards sustainable environmental practices. Even making the business case for environment friendly practices in manufacturing firms in front of All Pakistan Textile Processing Mills Associations returned no actions but mere words. When associations started realising our consistent efforts and delivering presentations to associations every year, the attitude changed. The association started helping us access manufacturers and transform the industry through awareness seminars and consultancy services. “Since PTEA is not a technical organisation, so we only support... we bring technical people to guide SMEs. So, WWF started a program in which it marked some small units and formally trained them to address their environmental issues”, said secretary PTEA.

***b. Public sector and international organisations***

WWF-Pak tried to forge a network with the public sector to seek their help in promoting awareness about environmental protection and the hazards of industrial waste. WWF-Pak started making presentations to public departments to create awareness about environmental hazards. However, the response was mostly discouraging because they would start mentioning their capacity-related issues, at the end of the presentation. Some public departments had even a discouraging response. For instance, the Senior Executive of WWF-Pak, who was making presentations to public departments at that time, shared the following instance with the researcher,

“DG agriculture extensions gave us [WWF-Pak] a shut-up call when we presented environmental hazards [of existing cotton growing practices] and [promoting] the BCI. DG said, you are an NGO... go and save pandas”

But as time passed, the attitude of government officials started changing as they started finding value in what WWF-Pak was professing. Similarly, things happened when agriculture extension realised the need for better cotton. With regards to international organisations, WWF-Pak partnered with the ILO in an EU-funded project wherein WWF-Pak will build the industry's capacity WWF-Pak networked with business associations, universities, national and international research institutes, and the public sector to achieve its objectives. The Text Box 5.3 below sheds light on factors that affected the process of WWF-Pak's becoming of PI sponsor.

**Text Box 5.3 Factors affecting WWF-Pak becoming PI sponsor**

**Conductive factors**

1. Demonstration effect of high returns to investments of big production houses e.g., Crescent, Interloop, Nishat in skills and technology.
2. Business case of sustainable practices convinced SMEs.
3. Positive change in attitude of public officers concerning industrial pollution.
4. Strong pressure of third-party audits and periodic renewal of certifications on exporters.
5. Transition from passive to an active role of business association.

**Obstructive factors**

1. The initial discouraging attitude of public officers.
2. Capacity and resources constraints in public institutions to abate and prevent industrial pollution.
3. Initial passive response from business associations.
4. Knowledge and resources constraints in SMEs to adopt sustainable practises.
5. Ineffective implementation of environmental laws.
6. Lack of interest in voluntary compliance to national and international standards.

Source: Author's own

The text box shows that in factors that one of the factors that helped GIZ in becoming proto-institutional sponsor was GIZ's success in creating demonstration effect of large size businesses on other firms in the sector. The business case for sustainability, positive change in public officers' attitude towards industrial pollution, strong pressure of audits and certifications on exporters, and the active role of stakeholders also helped GIZ in becoming proto-institutional sponsor of sustainability in the sector. On the other hand, the factors that obstructed this process of becoming sponsor were initial discouraging

attitude of public officers, capacity and resource constraints in public institutions, initial passive response from business associations, knowledge and resource constraints in SMEs, ineffective implementation of environmental laws, and a lack of interest in voluntary compliance with standards.

#### **5.3.4. Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH – GIZ (Established 2014)**

Contrary to WWF-Pak and CPI, GIZ did not emerge to support Pakistan's textile sector of its own will. Instead, the government of Pakistan requested GIZ to help with social, labour, and environmental issues. In a way, the government of Pakistan invited GIZ to transform and capacitate Pakistan's textile sector to become environmentally friendly.

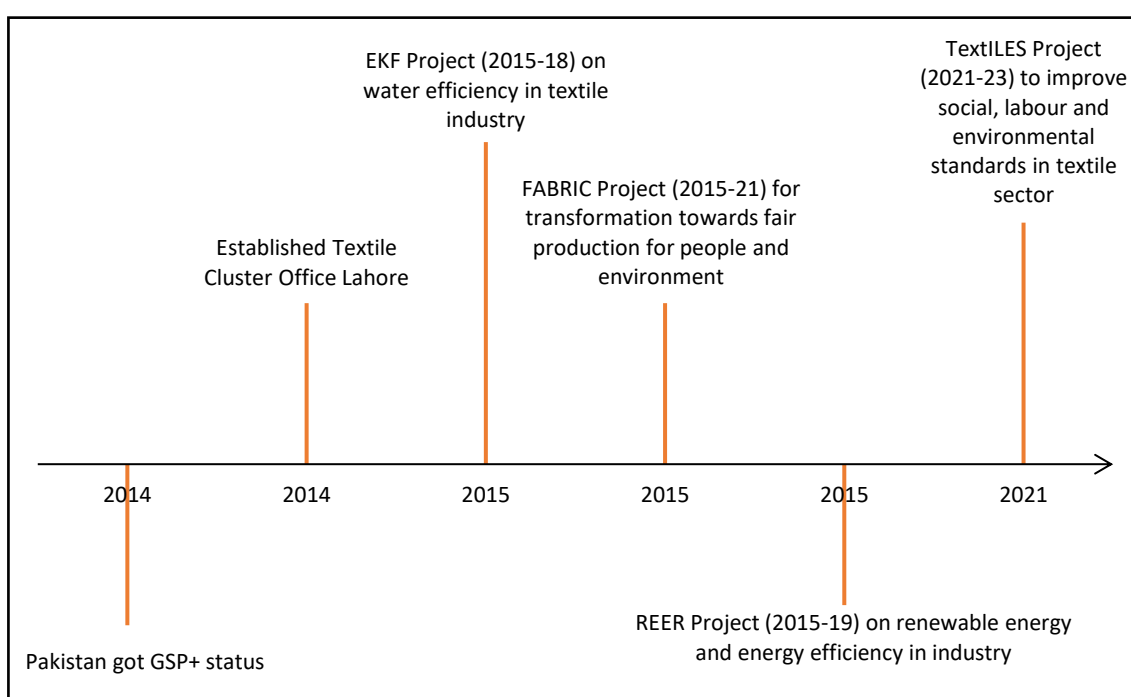
“The Pakistani government asked us to help them improve governance in the areas of labour and environmental standards necessary to access EU markets.” (Senior Executive GIZ)

GIZ, a German bilateral development organisation, works on three priority areas: decent jobs, inclusive societies and climate and energy. GIZ started playing its role in 2014 when Pakistan secured GSP Plus status, because of which, textile exporters were required to comply with international labour and environmental standards necessary to stay competitive. Pakistan's existing infrastructure to help the sector meet international requirements was weak. Therefore, talks between the governments of Pakistan and Germany were held; as a result, GIZ was tasked with helping the textile and other sectors and PSOs in improving the social, labour and environmental standards of exporting sectors in Pakistan.

GIZ started a water efficiency EKF project (2015-2018) to capacitate public sector organisations (PSOs) and showcase the potential benefits of water efficiency to the sector. The macro-level project improved frameworks for water efficiency measures and promoted composite solutions such as industrial parks in the sector using policy assistance from the Ministry of Textiles whereas, at the meso level, it taught

qualifications and built the capacity so that the sector could adopt modern technologies, standards, and management systems. As a micro-level measure, it introduced water balance data and trained the human resources of SMEs in this area. The program enabled associations and service providers to complete additional professional training on their own (GIZ Sustainable Industrial Areas, 2022). These three levels of impact depict the strength of the GIZ network that it has used to introduce and diffuse better water management practices in the sector. The following Figure 5.4 presents a summary view of events involved in GIZs’ becoming a PI sponsor.

**Figure 5.4 Emergence of GIZ as a PI sponsor**



Source: Author’s formulation

GIZ started another project alongside the water efficiency project — the REER project (2015-2019). This project was related to renewable energy and energy efficiency. It focused on energy management systems and resource efficiency in the textile sector to save energy used by textile manufacturers (Eberle, 2019). Yet another project was FABRIC (2015-2021) to promote sustainability in Asia’s textile and garments industry. The project aimed at “transforming industry towards fair production for people and the environment” by sharing new approaches and lessons with manufacturers, developing local capacity for solutions, cooperating with the private sector and sharing knowledge

across Asian countries (Ferling, 2019). In the recent past, GIZ has started another project – TextILES (2021-2023) that aims to improve labour, social and environmental standards in the sector. As part of the project, sustainable production will be advanced, a few companies will adopt environment friendly practices, and SMEs will be encouraged to obtain international labour and environmental certifications.

The abovementioned projects point towards the pro-environmental transformative role of GIZ for the textile industry in Pakistan that it is playing through its diverse network and activities such as the creation of knowledge about best practices, helping in certifications and capacitating firms to find solutions via networking within the industry and alumni firms (further discussed in Subsection 6.1.3).

#### **5.3.4.1 Network of GIZ**

The GIZ network is a result of government-to-government talks between Pakistan and Germany. GIZ believes that a strong network with stakeholders helps the organisation in achieving its goals. GIZ networks have been with government departments, private companies, business associations, and civil society organisations (Eberle, 2019, Ferling, 2019). The following subsection present a brief description of the networks that have helped GIZ develop into PI sponsor.

##### ***a. Industry and industry associations***

The GIZ textile cluster office in Lahore started with a project on social standards in the textile sector of Pakistan. It was challenging to access the textile manufacturers until GIZ's changed its narrative to 'improving compliances in participant firms'. As GIZ technical team representative said, "GIZ customises its narrative by saying that we are coming to improve your productivity and resource efficiency. This way, GIZ access firms to improve their energy efficiency, chemical management and labour productivity. By doing so, we expect that enterprises reap economic benefits".

GIZ built its rapport with the private sector soon after it started working in the sector. The variety of GIZ projects stated above was focused on supporting manufacturers in

water conservation, energy conservation, switching to renewable energy and adopting environment friendly alternatives to becoming resource efficient.

“when it comes to environmental standards, factories become significantly resource-efficient, start establishing first environmental good practices, improve their application of environmental management systems and so on and so forth”. (Senior Executive GIZ)

GIZ created its impact on SMEs and large businesses in the sector through two unique ways: DfS and Communities of Practice (COP). The COP is an informal network of all its participant firms through which the alumni firms exchange ideas and greet fellow alumni firms. It also boosts word of mouth for GIZ. DfS is GIZ's way of helping the industry to identify and solve its problems on its own. The partner firms are invited off the site, where GIZ conducts baseline studies of the partners. This is followed by a training workshop in which, on the first day, a consultant who is a technical expert in his field is asked to make a presentation about an issue, e.g., water efficiency that lets the audience know about water management best practices, teach them case studies and train them. On the next day, the participants of DfS are asked to reflect on their water management practices and identify the problems therein. The participants are then advised to share those problems in front of all participants, followed by discussions to find solutions. Normally, partners successfully find solutions to their problems during the discussion with fellow members in the presence of consultants and the GIZ moderator.

“We try to empower [participant firms'] teams to restore their communication at a hierarchical level to identify and solve their problems on their own. Their solutions might have technical issues, for which, we set weekly visits of Member technical teams. We call this meeting a change management team workshop”. (Member technical team GIZ)

***b. Voluntary sector and public sector organisations***

Since GIZ projects are a result of government-to-government collaborations, its interaction with WWF-Pak, CPI were limited to its predefined objectives. Technical

Advisor, GIZ shared that “GIZ representatives visit their political partners and inquire about their demands in each project... the partner drives us rather than us driving the partner e.g., EPD will inform us of their requirement of capacity building in regulating environment-related laws”. This illustrates the proximity that GIZ has in promoting sustainability practices in the public sector organisations that make prime constituents of sustainability in the country. Similarly, before starting a project, GIZ visits public sector organisations, e.g., Textile Division in Ministry of Commerce or provincial EPAs and asks them for nominations from industries whom GIZ will evaluate and recruit for its projects. For instance, public sector organisations entrust GIZ with visiting relevant business associations for nominations. GIZ evaluate nominations based on our project’s inclusion criteria and recruit those who qualify – ‘partner factories’. The partner factories are then trained, e.g., for resource efficiency and chemical management (Appendix L).

GIZ tried to forge networks with industry associations, e.g., APTMA and PHMA, but despite these associations being key gatekeepers of the industry, they were not as helpful for GIZ in accessing the sector. As Senior Executive GIZ shared, “We tried to get through the business associations a lot, but they didn’t work out well for us. we got a few contacts but those were limited. Instead, my team of textile and garment practitioners helped us access the sector. Word of mouth is a big part of this”. GIZ often engages with the public sector concerning its capacity development. However, collaborations of GIZ with public organisations are precisely not a network because “those are formal agreements and governmental negotiations so there is no networking about it,” said Senior Executive GIZ. The representative further added that GIZ is exclusively in an advisory role. It never implements itself. Rather it helps by asking a question that helps people develop solutions for themselves. The factors affecting the emergence and development of GIZ as a PI sponsor for the diffusion of sustainability in the sector are presented in Text Box 5.4.

The text box shows that multiple factors facilitated GIZ in assuming a proto-institutional role. Firstly, GIZ benefited from its origin in government-to-government talks, requiring less effort to build networks with stakeholders in the sector. Once established, communities of practice (COP) helped foster trust in GIZ within the sector. Additionally,



when GIZ changed its narrative to emphasize promoting sustainable practices in firms, it effectively attracted firms towards waste-minimizing changes. However, obstructive factors include the passive role of business associations in engaging textile manufacturers and the weak linkage between industry and academia. These factors underscore the importance of strengthening collaboration and bridging the academia-industry gap to enable an actor to emerge as a proto-institutional sponsor, facilitating the promotion and implementation of sustainable practices in firms.

#### **Text Box 5.4 Factors affecting GIZ becoming PI sponsor**

##### **Conductive factors**

1. Government to government business reduced efforts for networks with stakeholders.
2. Communities of practice (COP) helped in winning industry's trust.
3. Change in 'bayania', i.e., business case of sustainable practices attracted firms to adopt waste minimising changes.

##### **Obstructive factors**

1. Passive role of business associations in accessing industry.
2. Weak linkage between industry and academia.

Source: Author's own

A comparative look at conducive and obstructive factors of all proto-institutional sponsors can help new actors in the organisational field in navigating potential problems and drivers that could come in their way of becoming a proto-institutional sponsors. The next section presents a discussion on findings about emergence and development of proto-institutional sponsors in textile sector in Pakistan.

## **5.4. Discussion**

This chapter has presented a brief overview of textile manufacturing practices and processes in Pakistan. This chapter has also explored reasons as to why intermediary organisations emerged to assume proto-institutional sponsor (PI sponsor) roles and what processes were involved in their emergence. The findings suggest that SMEs in Pakistan's textile sector could be categorised into three on basis of their compliance with environmental standards. Findings also revealed that two intermediary organisations emerged as new organisations whereas some pre-existing organisations

expanded the scope of their work to hold a place in the contextual settings of this study. These intermediaries are promoting pro-environmental changes to manufacturing practices and processes by mediating between manufacturers and the stakeholders of resource efficient and cleaner production (RECP) in the sector (to be analysed and discussed in the forthcoming chapter).

#### **5.4.1. Reasons for the emergence of institutional intermediaries**

NTU and CPI, the co-creation of industrialists, were established to address institutional voids that the sector was facing owing to the absence of dedicated public sector institutions that could have provided technical and human resource assistance and cleaner production support to the sector. This finding is consistent with Smolka and Heugens (2020) who have reported that regulatory proto-institution (PI) in the Dutch drone industry emerged to address the void in knowledge necessary to design a regulatory framework for the industry. This finding also adds to extant literature by presenting evidence from a previously under-researched context.

The pre-existing organisations, WWF-Pak and GIZ expanded on their scope of work to address institutional gaps in awareness and knowledge about the environmental implications of textile manufacturing and build the capacity of participant firms to enable them for adopting sustainable and best practices and processes. The emergence of these organisations is similar to GAVI, a proto-institution in the international health sector, that emerged to address the decline in international interest and funding for the vaccination of children in low-income countries (Gómez and Atun, 2013) and another proto-institution, Mere et Enfant, who forged inter-organisational collaborations with international NGOs to address the institutional gap in Palestine's public health system who was falling short of child nutrition services (Lawrence et al., 2002). However, the context of this study differs from the above-cited evidence from the empirical literature (e.g., the services sector, mostly of developed countries). This shows actors from within the organisational field – a constellation of actors who are the central unit of organisation (Wooten and Hoffman, 2017) of the textile sector and from outside the field have emerged to alter the institutional logic in the field to address institutional

voids and gaps even in developing country contexts wherein the manufacturing sector under exploration is dominated by SMEs.

The practical and policy-related implication of this finding is that intermediaries have potential to emerge in an institutional field and work towards addressing institutional voids and gaps (which are common in developing countries). Public sector support to these intermediaries could help such intermediaries grow into proto-institutions and strengthen the formal governance structure<sup>27</sup>.

#### **5.4.2. Location of shock impacting organisational field**

The events (shocks) that caused tension in the institutional field and led to the formation of proto-institutions (PI) were both internal and external to the field. Consistent with Kleinaltenkamp et al. (2018), the partition of the subcontinent, international pressure for sustainable development and Pakistan's GPS Plus were international developments that paved the way for NTU, CPI and GIZ to enter into the organisational field of Pakistan's textile sector. There also were shocks from within the field: lack of awareness and knowledge in the sector about their environmental footprints, lack of effective communication of various segments of the sector with respective PSOs and SMEs facing difficulty in accessing finances for business development services. The internal and external locations of shocks point out that existing practices and technologies in the field are under various forms of institutional pressure (regulative, normative, mimetic) to undergo certain transitions. A detailed discussion of the roles of intermediaries presents details of these institutional pressures and their impacts in the next chapter.

#### **5.4.3. Institutional work processes**

An exploration of the interactions and relationships of actors is critical to understand the institutional work (IW) processes that lead to the emergence of the proto-institution (Smolka and Heugens, 2020). In this study, 'collaborations' among the stakeholders of resource-efficient and cleaner production in the textile sector were the IW processes

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<sup>27</sup> A possible future area of research could be finding out whether proto-institutions continued working as compensatory arrangement for supporting formal institution or did they turn towards destruction or bricolage. Such a study would policy and practice about potential effects of nurturing institutional work.

that led to intermediaries' development into proto-institutions. The collaborative co-creation of industrialists and the stakeholders of the sector (Section 5.2) established both NTU and CPI. NTU evolved into its present outlook of a proto-institutional sponsor of technical assistance in the sector through its multiple collaborations with the public sector, industry and international organisations. It was through its international collaboration with UK-based institutes that it trained its faculty. Similarly, it was the networking with technical experts in the sector to become their faculty, government-to-government collaboration for improving institutions' research and development infrastructure under the JICA programme, collaboration for establishing NTRC which offers commercial R&D support with textile inputs, textile manufacturing processes, and textile products. Recent collaborations with public sector organisations, textile manufacturers, and national and international organisations (Subsection 5.3.1).

The CPI (2004) that was started has evolved into proto-institutional sponsor (PI sponsor) through collaborations with funding and consultancy organisations of international stature. It started developing into PI sponsor through its Program for Sustainable Industrial Development (PSID I and II) projects which were funded by the Embassy of the Kingdom of the Netherlands. It was through these collaborative projects that CPI helped participant textile firms in meeting national and international environmental standards and introduced (EU) environment friendly technology in the sector. Similarly, CPI has forged collaborations with international funding organisations (e.g., World Bank, Asian Development Bank, KfW Bank and European Union Bank) and international implementing organisations (e.g., WWF-Pak, GIZ, ILO) to work further on cleaner production in Pakistan.

The institution's work that drove the already established international organisations, WWF-Pak and GIZ to address institutional gaps in the contextual settings of this study also were collaborations. For instance, consistent with the inter-organisational collaboration reported in Palestinian NGOs (Lawrence et al., 2002), WWF-Pak collaborations with national and international organisations helped it evolve into PI sponsor, whereas the government-to-government collaboration steered GIZ development into a PI sponsor of sustainability by enabling the sector and related PSOs

to ensure compliance with international standards in the sector. The industry associations and chambers of commerce created platforms to establish communication between industry and the government. Broadly, these findings are consistent with the scant literature on proto-institutions (Lawrence et al., 2002, Zietsma and McKnight, 2009, Gómez and Atun, 2013, Adler and Gersch, 2015, Kleinaltenkamp et al., 2018). However, the contrast is, these empirical investigations into proto-institutions are based in the services sector, e.g., the services ecosystem (Kleinaltenkamp et al., 2018), the international health sector (Gómez and Atun, 2013), the national health sector (Lawrence et al., 2002), the drones industry (Smolka and Heugens, 2020), the public broadcasting organisation (Hensel, 2018) and global labour standards (Helfen and Sydow, 2013). However, as mentioned in previous findings as well, the findings of this study from a previously under-researched SME-dominated manufacturing sector of a developing country (Chapter 3) and the diverse range of collaboration through stakeholders have steered the institutional work process even in such a contextual setting have led intermediaries to become proto-institutional sponsors.

This points out to policymakers that the institutional role of intermediaries can help with navigating the issues in public institutional arrangements, e.g., for sustainable textile manufacturing in Pakistan. A limitation of this result is that it lacks the micro-level details (fine details) of the new events that led to major changes, such as collaborations and proto-institutional sponsor development, due to a lack of archival data. Those with knowledge of such collaborative relationships could be interviewed. However, this study could not do so due to COVID 19 implications (Subsection 4.5).

## **5.5. Chapter summary**

This chapter has shown that intermediaries emerged in the textile industry for a variety of reasons, both internal and external to the organisational field. To fill institutional voids in technical assistance and cleaner production, NTU and CPI were established, while WWF-Pak, GIZ, and USAID expanded their roles to educate textile manufacturers, provide technical assistance, ensure they comply with international labour and environmental standards and fund their growth.

Intermediaries collaborated with stakeholders concerned about sustainable environmental practices and evolved into proto-institutional sponsors. The CPI was co-created collaboratively by industrialists from a wide range of industries, while the NTU was established by textile industry industrialists, the government of England, and the Punjab government to provide technical assistance. In collaboration with international donors and the private sector, WWF-Pak has expanded its role to promote public awareness and knowledge about textile manufacturing's environmental impact. Government-to-government cooperation has given GIZ a role in capacitating the sector to meet international standards whereas SMEA is a result of USAID's collaboration with the sector. The industry associations and chambers were the outcomes of collaboration between various segments of the textile sector. Several proto-institutional sponsor activities are briefly discussed in this chapter: education, training, technical assistance, financial assistance, communications, and policy development (although a more detailed analysis and discussion are left for the next chapter).

Institutional voids and gaps were the main factors influencing the practices and technologies of the sector. Sponsors' experiences, stakes in playing institutional roles, and changes in their work scope led to their development as intermediaries and proto-institutional sponsors. Among the factors inhibiting intermediaries' development into proto-institutional sponsors were the lack of resources, capacities, and infrastructure of public sector organisations, insufficient financial support from manufacturers, ignorance of environment friendly alternatives, and passive participation from industry associations. An inadequate R&D infrastructure and ineffective environmental governance hindered sponsors. The next chapter compares proto-institutional sponsors within and across cases to understand how they promote sustainability.

## **Chapter 6 Comparative analysis of proto-institutional sponsors in advancing sustainable practices**

This chapter examines the roles that proto-institutional sponsors play in advancing environmental practices while working as an informal institutional arrangement to compensate for institutional voids and gaps in the already existing formal institutional arrangement such as Ministry of Climate Change and provincial environmental protection agencies. It first undertakes an in-case analysis of each proto-institutional sponsor and then undertakes a comparative analysis of these proto-institutional sponsors.

### **6.1. Exploring the roles of proto-institutional sponsors**

The institutional landscape of the textile sector in Pakistan includes several proto-institutional sponsors (PI sponsors), which emerged to address institutional voids and gaps in formal institutional arrangements for promoting sustainable environmental practices in the sector (Chapter 5). The five leading PI sponsors comprise two International Bilateral Development Organisations (IBDOs): GIZ and USAID, an international NGO: WWF-Pak, a national consultancy and support organisation: CPI and the research centre of a public sector university: NTRC. These PI sponsors received help from the support network of stakeholders aiming to institutionalise sustainable practices (Lawrence et al., 2002, Zietsma and McKnight, 2009) in the sector. The stakeholders include business associations e.g., Pakistan Textile Exporters Association (PTEA), chambers of commerce e.g., Faisalabad Chamber of Commerce and Industry (FCCI); technical and non-technical consultants e.g., NEC Consultants; industry experts (IEs) e.g., Director Compliance in LSE 1; and third-party auditors who audit adherence to standards prescribed by the international brands or buyers. The PI sponsors work as an informal institutional arrangement, compensating for the weak or missing formal institutions that are otherwise necessary to promote environment friendly changes in the sector. In doing so, PI sponsors exert non-regulatory institutional pressures on the sector and provide alternative sources of support to advance sustainable practices in the sector. This section proceeds by exploring the roles of each PI sponsor and ends with

a discussion on how these PI sponsors are carrying out Institutional Work (IW) in the contextual settings of this study.

### 6.1.1. National Textile University (NTU)

A priority of NTU is to strengthen the industry-academic linkage to provide solutions to the technology gap that prevents textile manufacturers from adopting pro-environmental practices and technologies. Each year, NTU organises the annual general meeting of the Textile Industrial Advisory Board (TIAB) which assists in strengthening the linkages between industry, academia, and the community (NTU, 2020b, p. 18, NTU, 2021d, p. 14). The main function of the NTRC is to provide information sessions to textile manufacturers to raise awareness about textile manufacturing and to conduct research and development activities such as commercial research, product development activities, laboratory testing, and technical assistance on the ground (Table 6.1). In doing so, it conducts IW of changing normative association between practices and their moral foundation in an organisational field and it exerts non-regulatory institutional pressures on the sector in this regard.

**Table 6.1 NTRC is addressing the technical gap**

First Order Codes	Second Order Concepts	Aggregate Dimension
Conduct seminars on sustainability	Create awareness	Addressing technical gap
Undertake research for academia, industry and ministry	Research and consultancy support	
Give product development consultancy		
Conduct environment and energy audits		
Provide on-the-floor technical services to industry		

Source: Author's own

NTRC has made efforts to change the existing meaning and understanding of textile production in the sector. NTRC introduce and diffuse sustainability in textile inputs, processes and outputs through its seminars, workshops and collaborative discussions (NTU, 2020a, pp. 5,10). It has created awareness and imparted knowledge about sustainability in firms and PSOs through these seminars that invite industry, faculty and students. E.g., an international conference on technical textiles with the collaboration of GIZ, WWF and other national stakeholders (NTU, 2020b, p. 18); a one-day seminar on



chemical management, textile wastewater loads and pollution management with the collaboration of GIZ (NTU, 2020a, p. 17); a seminar on the labour and environmental standards in the textile industry with the collaboration of GIZ (NTU, 2021c, p. 7). Recently, NTU conducted a five-day capacity-building workshop on inspections and quality checks for government officials (NTU, 2021d, p. 15). SME 3 confirmed that NTU liaises with industry through invitation in seminars and workshops on resource efficiency. These instances show that NTRC has attempted to redefine pre-existing practices of textile manufacturing practices from 'no-care-for-environment' towards manufacturing using sustainable environmental practices (Subsection 2.1.1). Such a remaking of connections between textile manufacturing practices and the moral and cultural foundation of these practices is construed as IW (Lawrence and Suddaby, 2006, p. 224).

NTRC has induced normative pressure on firms to introduce and promote sustainable working practices and technologies through its activities in collaboration with stakeholders. For instance, NTRC has collaborated with *Rastgar Group*, *Asian Institute of Industrial Air* and others to establish the Centre of Excellence in Compressed Air (CECA) in the university (NTU, 2021c, p. 3). The purpose of this Centre is to raise awareness among academia and industry about the importance of air compression engineering. This is because air compression accounts for 70% of the total energy used in textiles; still, it has been ignored (Asian Institute of Industrial Air, 2022). It has also established the Italy-Pak Textile Technology Center in collaboration with the Italian and Pakistani governments to provide training on advanced denim equipment (NTU, 2021d, p. 14). The NTU has also developed and transferred an eco-friendly technology that converts banana agro-waste into textiles with value-added (NTU, 2021c, p. 5). The fieldwork revealed,

“This hemp fibre has finally been approved for research and commercialisation. We intend to grow a totally new industry of hemp fibre of around 20 billion dollars compared to the 12 billion dollars currently in the textile industry.” (Director NTRC)

Such opportunities to learn and adopt sustainable practices are casting mimetic pressure because when members of the cluster see renowned manufacturers, e.g., Crescent Bahuman Limited, Masood Textile Mills participating in seminars or training, they mimic to stay competitive in the market.

NTRC has also influenced the range of products being produced in the sector, which has altered the standards for being legitimate and competitive in the sector. For instance, NTRC has helped textile manufacturers in developing innovative and technical textiles along with their traditional home textiles. It has signed a memorandum of understanding (MOU) with one of the largest textile manufacturers in Pakistan – *Crescent Bahuman Limited* (NTU, 2020a, p. 5) to undertake commercialised research. *Bahuman* being one of the top firms creates a new level of competition in the organisational field. Therefore, its competitors also respond by developing similar products or undertaking similar processes to retain their legitimacy in the sector. LSE 1 compliance director also reflected on their MOU with NTRC in fibre development. So, NTRC collaborative initiatives in, e.g., technical and sustainable textiles create competition in the sector and, in terms of IT, its source of normative pressure on the sector. Similar collaborative actions have been noted when NTRC undertook commercial research for medium-sized textile manufacturers: *Ahmad Jamal Textile Mills* (NTU, 2021c, p. 6) and *Sharif Textile Mill* and *Amami Textile Mill* (NTU, 2021d, pp. 6, 9). The following quote from a discussion with the Director of NTRC shows efforts of the Center for small and medium businesses.

“Our Internet of Things (IoT) project at SME 3 will lower their production costs and energy consumption. A second project there is to improve water filtration efficiency by lowering groundwater rejection levels from 40% to 20%.”

NTRC recognises the importance of assisting SMEs in becoming environment friendly businesses and has developed a two-stage model to assist SMEs. As a first step, SMEs should eliminate toxic materials from their production processes and replace them with safe alternatives. The use of secondary or tertiary treatment technologies should be

considered by SMEs to improve their water intake rejection. As a second step, small and medium-sized businesses should improve their energy efficiency and product quality to become more environment friendly. The model may be able to compensate for the additional costs incurred by adding value to the products. Although this model exists, only those SMEs that plan to enter international markets or sell to international customers are eager to adopt sustainable practices. Others, such as SME 1 and 4 remain passive. “It depends on the willingness of SMEs to become sustainable, SME 3 has sought our assistance,” said an NTRC representative.

Although the Center has been working to strengthen industry-academia links as is visible for a non-exhaustive list of projects it does for industry (Appendix J), however these are limited to large size businesses, so NTRC is lacking in this regard. Based on discussions with stakeholders and observations by researchers during fieldwork, industry-academia links appear weak. LSE 1 and SME 3 acknowledged receiving R&D support from NTRC, while others (firms and stakeholders) suggested that academia and industry should form a closer working relationship. In the words of a representative from GIZ, “I have been listening to the industry-academia relationship since I was a child. There is a need to restore these links.”

In summary, the NTRC provides educational, technical and non-technical support to address the technical gap in the sector. In doing so, it has assumed a proto-institutional role to alter existing norms, practices, and technologies in favour of sustainability. The Center exerts normative institutional pressure while introducing and promoting sustainable solutions through its specialised research and consultancy support. Alongside it is also exerting mimetic institutional pressure since when leading firms adopt sustainable solutions, the competing firms start to mimic and thus follow suit. However, it is important to recognise a few limitations of NTRC here.

First, a single public textile institution cannot possibly respond to the research and development needs of 517 registered and an even greater volume of unregistered textile manufacturers in the country (Government of Pakistan, 2021a). According to All Pakistan Textile Processing Mills Association (APTPMA), there are 376 registered

processing mills nationwide, of which 163 are in Karachi and 116 are in Faisalabad. The Faisalabad cluster benefits more than Karachi due to its proximity to the NTU (as evident from the list of projects for industry available on the university website [www.ntu.edu.pk](http://www.ntu.edu.pk)). It highlights that a larger cluster of processing mills has only limited access to the facilities at NTU. Second, most textile firms benefiting from consultancy services, hands-on training and R&D are large, whereas only a few small and medium-sized firms have also benefited from these services. It shows that working practices in textile SMEs comprising most of the sector, are comparatively less impacted by NTRC than those of large businesses. These limitations suggest that the proto-institutional role of NTC is limited in its scope and impact. It also suggests that the technical gap persists. Therefore, relevant stakeholders should play their role in improving research and development infrastructure for sustainable practices in the sector.

#### **6.1.2. Cleaner Production Institute (CPI)**

CPI is working as PI sponsor of cleaner production in the sector by undertaking multiple roles (Table 6.2) that exert normative institutional pressure (DiMaggio and Powell, 1983) on textile firms for cleaner production. First, CPI is playing an educational role through awareness sessions and training workshops. The sessions highlight the environmental impacts of existing working practices and educate participants about sustainable alternatives. The workshops are providing the necessary skills and knowledge that participant firms need to adopt pro-environmental alternatives. For instance,

“...we give full support to SMEs in the context of environment and energy. We give training, conduct surveys, identify issues, as well as help SMEs implement solutions. We sometimes use different platforms to conduct awareness and training-related events.” (Manager, CPI)

The founding member has voluntarily trained hundreds of employees who are now working in public and private sector organisations and acting as an agency of change in the industry. “I am very seriously proud of training 2000 employees since 1994. They all got on-the-job training in NEC or CPI. Now most of them are in the network, somewhere in the industry, somewhere in the donor-driven project, somewhere in the EPA”, said a

senior executive of CPI. The owner manager of SME 2 acknowledged that CPI helped them in learning about better alternative but when the responded was asked about outreach of such activities then the owner manager was critical of frequency of such events of CPI. Together, the sessions and workshops are promoting pro-environmental changes in prevailing norms in the sector.

Second, CPI undertakes customised research to develop affordable eco-friendly solutions for SMEs. CPI have done eight or nine environment and energy projects in different SMEs of the textile and tanneries sector and designed primary wastewater treatment plants for SMEs to reduce their wastewater pollution by 30 to 40 percent, the manager of CPI shared. There is a consistent stream of literature on the supportive role of intermediaries in environmental engineering, e.g., (Kanda et al., 2018). Third, CPI provides on-the-floor services to address issues relating to resource efficiency, housekeeping and pollution reduction (CPI, 2018c).

**Table 6.2 CPI diffusing sustainable practices in the sector**

First Order Codes	Second Order Concepts	Aggregate Dimension
Create awareness about cleaner production and resource efficiency	Educating cleaner production	Diffusing sustainable practices in textile manufacturing
Give training on cleaner production and best practices		
Create demonstrations in the industry for others to replicate		
Design and implement energy efficiency projects	Designing and implementing cleaner solutions	
Support firms in implementing environmental management system (EMS) ISO 14001		
Conduct specialised research on energy and the environment		
Design and install waste treatment plants for SMEs and large-scale firms		
Help SMEs in meeting international sustainability standards	Giving non-technical support	
Give consultancy services to SMEs for environmental and energy audits		
Conduct environmental studies, surveys and impact reports		

Source: Author's own

CPI Manager confirmed that some of their partner firms have seen improvement in their manufacturing and housekeeping practices, e.g., better management of input of natural resources (water management) and hazardous dyes and chemicals (chemical management). “Some [firms] undertook caustic soda recovery, some installed wastewater treatment plants, and some implemented ISO 14001. Other than these, firms have saved lots of water and improved their management of chemicals. I think these are the changes that SMEs have adopted”, said Manager, CPI. It is important to note that textile SMEs in Pakistan prioritise energy conservation practices as compared to, e.g., recycling because conserving energy in the production process produces returns within a shorter period. This finding has also been endorsed by one of the industry compliance experts who mentioned, “firms generally adopt energy management quickly because the returns from energy management are quick than carbon footprint or wastewater management”. This contradicts Millar and Russell (2011, p. 518) who have reported in their research on sustainable practices in Caribbean SMEs that energy saving is not a priority in the design and operation of their manufacturing process.

Fourth, CPI conducts environmental and energy audits which help firms to keep track of their footprints. It conducts capacity-building training and lends its R&D services to help firms become independent in adopting best practices, e.g., ISO 14001. This intermediary organisation is also working as an implementation partner of WWF-Pak under the ILO project – International Labour and Environmental Standards Application in Pakistan’s SMEs (ILO, 2021, p. 38).

“...we have conducted environmental audits in ten textile firms. We advised them of certain actions as per findings from audits. Some [firms] performed recommended actions by themselves whereas others negotiated with us to perform on their behalf, e.g., efficiently run wastewater treatment plant and train their workers as well.” (Senior Executive CPI)

“We supported [industry] in terms of designing and implementing specific environmental management systems.” (Manager, CPI)

Fifth, CPI collaborates with stakeholders for promoting cleaner alternatives in the sector (Table 6.3). CPI collaborated with Environmental Protection Agency, Punjab (EPA Punjab) to help it know possible roles that it should be playing to promote sustainability in the textile sector. Senior executive CPI shared that “we designed package, trained their employees, diffused recommended technology, told them what to monitor and trained their employees on how to monitor”. This role is consistent with the extant literature that suggests public authorities and intermediaries should collaborate to promote sustainability in SMEs of developing countries, e.g., (Millar and Russell, 2011).

**Table 6.3 Collaborative Network of CPI**

First Order Codes	Second Order Concepts	Aggregate Theme/ Dimension
Capacity-building project for EPA Punjab: what to monitor in textiles firms and how to monitor	Public sector collaborations	Forge a network of stakeholders for the pro-environmental transformation of industry
Business associations give logistic support and provide access to firms	Business association collaborations	
Ensure compliance with advised practices in selected SMEs through associations		
Awareness sessions: environmental footprints and pro-environmental alternatives for firms	Industrial collaborations	
Customise cleaner alternatives for SMEs: primary wastewater treatment plants		
Auditing services: environmental and energy audits of firms		
Dutch Embassy technology transfer Project: introducing Dutch and European Union technology in Pakistan	International collaborations	
ILO (ILES Project): conduct environmental and energy audits		

Source: Author's own

CPI has also played a vital role in transferring international eco-efficient technology to Pakistan. The Dutch Embassy asked CPI to promote European Union technologies in Pakistan in 2008, to which we provided energy efficiency and wastewater treatment services to over 400 firms in Pakistan. Also, during this study, CPI was continuing its work with WWF-Pakistan to support 75 firms in the leather and textile sector. These roles also correspond with the empirical literature on ways intermediaries affect eco-efficient technologies, e.g., (Kanda et al., 2018). CPI also benefit from collaboration with business

associations. The associations prove helpful in reaching out to manufacturers and facilitating our projects.

“Business associations are good in terms of support to access firms. But if you talk about initiatives... they do not do that because they neither have the capacity nor resources. Their good feature is that they do support projects in the industry.” (CPI Manager)

There have been instances in the researcher’s discussions with CPI representatives where the latter highlighted CPI activities concerning policy work. Senior executive CPI said, “You will find our inputs in Pakistan’s textile policy, Pakistan’s environmental policy and recent energy policy. You can say our inputs were inculcated either directly or indirectly in policies and action plans at every level”. The extant literature also recognises the role of intermediaries in policy work e.g., (Polzin et al., 2016) however, this study does not recognise such a role due to a lack of evidence for triangulation. Overall, the collaborative role suggests that CPI is promoting cleaner alternatives / sustainable practices in textile manufacturers through its network with stakeholders. This finding resonates with a set of studies from the extant literature e.g., (Klewitz et al., 2012, Clarke and Ramirez, 2014, Gliedt et al., 2018, Kanda et al., 2018, Ramirez et al., 2018, Eanes et al., 2019).

Overall, CPI is promoting cleaner production in Pakistan’s textile sector. This finding is similar to two other empirical studies from Pakistan in which authors have explored the role of CPI in other sectors than textiles (Ortolano et al., 2014, Wahga et al., 2018b). Looking through an IT lens, CPI is found exercising normative isomorphic pressure (DiMaggio and Powell, 1983) on manufacturers when it introduces, educates about, deploys, operationalises, and extends on-the-floor services for best practices and technologies in the sector. In a way, it challenges pre-existing parameters defining legitimacy, competitiveness and business share. Firms, to retain their legitimacy and competitiveness, steep up to new norms, practices and technologies. Alongside, CPI also exercise mimetic pressures (DiMaggio and Powell, 1983) for this cause. For instance, “we shared [success stories] ... we told people in Lahore that Faisalabad’s APTMA



chapter is doing very well, why are you behind... in Karachi, we told producers about Faisalabad's benefit from these technologies. This competition helped us and industry", a senior executive of CPI said.

How far CPI has succeeded in promoting pro-environmental changes in the sector needs attention here. Table 6.4 explains why it can generate limited impact. For instance, CPI is playing multiple roles to promote pro-environmental alternatives in the sector, but it has not succeeded in bringing changes in all of those firms who were under the ambit of CPI services/ used CPI services/ (those firms who have experienced various roles of CPI). Rather, a few firms improved their housekeeping practices, waste handling practices, resource efficiency measures, and production technologies and/or they installed chemical recovery and wastewater treatment plants).

**Table 6.4 CPI faces impediments in diffusing clean alternatives**

First Order Codes	Second Order Concepts	Aggregate Theme/ Dimension
Firms adopt practices that improve their margins	Some prefer profit over environmental footprints	CPI can help, not ensure enforcement of compliances
Financial constraints restrict some firms from adopting alternatives		
Firms are preferring to adopt energy efficiency practices		
Non-exporting firms are usually non-responsive to the environment		
Existing environmental policy suggestions are less pragmatic (Planting trees in SMEs)	EPA Punjab governance is weak	
Coercive regulatory force is weak		
Training and workshops can have only a limited impact		
EPA Punjab lacks a policy for cleaner production		

Source: Author's own

The Manager CPI himself highlighted the only 50 percent of firms adopt their recommended changes because some firms, particularly those working in the local market, do not find value in our suggestions despite lots of efforts. Some firms adopt a few recommendations that were doable within their financial limitations and their priority to increase profits. Some firms implement almost everything we recommend. So, that is a mix of results. Furthermore, he highlighted the limited extent to which CPI could play role in promoting cleaner production changes in firms,

“... enforcement is the question of governments because workshops and training can contribute a certain small amount of improvement. These training or advocacy workshops cannot bring revolution. It did not happen in the last 40 years.”

The finding that some textile manufacturers prefer economic gains over cleaner alternatives (e.g., production and profits over recommended changes) resonates with the vast empirical literature on SMEs adopting sustainable practices, e.g., (Revell and Blackburn, 2007, Bhanot et al., 2015). Similarly, the second finding that coercive regulatory pressure from environmental authorities is weak (i.e., governance is the question of government) also corresponds to the empirical literature on environmental governance issues in developing countries, e.g., (Ortolano et al., 2014, Wahga et al., 2018b). Moreover, the state of existing policies, generic environmental regulations and the sheer absence of a national or provincial cleaner production policy also offers an explanation. Asking SMEs, usually space-constrained, to plant trees at their production site is not a pragmatic policy!

### **6.1.3. Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)**

The GIZ is playing an active role in enabling and helping the national textile cluster to comply with international standards of labour<sup>28</sup> and environment (Table 6.5). Its way of work is Dialogue for Sustainability (DfS) which aims to institutionalise sustainable practices in the sector through two roles: capacity development textile manufacturers and informal support network for its alumni firms (GIZ Pakistan, 2022). GIZ recruit participant firms’ so-called ‘partners’ on a project-to-project basis.

The first role of GIZ in capacity development is through Change Management Team (CMT) workshops, some visuals of this workshop is presented in Appendix L. These CMTs comprise a variety of activities that improve the knowledge base of participant firms (partners), empower them to recognise their problems as problems, choose best

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<sup>28</sup> GIZ’s role in the context of labour standards is beyond the scope of this study.

possible solutions and finally implement solutions in their workplaces. “We [usually] take our partner factories through a two-year process where we work on their environment, labour working standards and productivity matters”, said a senior executive of GIZ.

**Table 6.5 Institutionalising Dialogue for Sustainability (DfS)**

First Order Codes	Second Order Concepts	Aggregate Dimension
Apprise firms of best practices	Introducing sustainability	Institutionalising DfS in industry
Change Management Team (CMT) Workshop		
Communities of Practice (COP) Network	Diffusing sustainability	
COP asked for creating ‘Multipliers’		
Capacitated multipliers to carry out DfS		
Multipliers will sustain DfS without GIZ		

Source: Author’s own

GIZ team undertakes teaching and training activities to improve the knowledge base of the sector. For instance, SME 5 shared that energy and chemical management workshops were helpful in adopting new housekeeping practices and resource efficiency. In CMT workshops, GIZ shares case studies of best practices with participant firms that could prove helpful in improving their efficiency, productivity and compliance with international standards. This role is consistent with, e.g., (Millar and Russell, 2011, Thongplew et al., 2017).

“... e.g., water management issues. A GIZ resource person delivers training through activities and teaches national and international level case studies to the partners on water efficiency. So, partners listen to best practices for water management for a whole day.” (Member technical team GIZ)

This knowledge of best practices and technologies has been helping participant firms to recognise their problems as problems and find better alternatives as solutions (Table 6.6). Participants cross-compare their existing practices and technologies with the best alternatives in CMT workshops to tease out areas whereat they can improve their understanding. The brainstorming sessions improve participants’ problem-solving skills

and their ability to think through problems to find possible solutions while relying on their knowledge and experiences.

“... [in CMT] partners conduct their own gap analyses and identify problems which they can easily solve. Partners identify problems, do root causes analyses and recommend solutions themselves. The resource person and GIZ moderator, both play the role of facilitator. This develops problem-solving skills.” (Member technical team GIZ)

There is evidence of GIZ participants benefiting from CMT. For instance, the Compliance Manager of a composite mill who represented his organisation in CMT workshops shared, “[GIZ] has helped us in re-thinking our system or you can say realign our system, e.g., in chemical handling, energy efficiency, heat conservation in boilers...” (LSE 1). GIZ also empowers participant factories to draft and implement their action plans at workplaces. Its technical resource team facilitates participants in all aspects of this activity: drafting the plan, ensuring its technical soundness and successful implementation at the workplace. “GIZ set a weekly visit of technical advisors, who are on GIZ payroll, to help partners implement their action plans and progress report. All partner factories meet again after three months for another off-site meeting”, said a technical advisor at GIZ. In summary, GIZ’s first role in institutionalising sustainability through CMT is introducing and diffusing best practices in the organisational field of the textile sector in Pakistan. This finding is consistent with the extant literature on intermediaries promoting better alternatives, e.g., (Puppim de Oliveira and Jabbour, 2017, Kanda et al., 2018, Kanda et al., 2019).

The second role: The Communities of Practice (COP) network is yet another source of normative isomorphic pressure on the textile sector. For instance, alumni factories have opportunities to share knowledge and learn from each other’s experiences in pursuit of becoming internationally competitive in this informal network. Therefore, continuous support to promote new norms exists. Similarly, this network provides feedback on the existing methodology of the institutionalisation process, e.g., CMT. This gives it a reinforcing feature to adapt to situations and consistently promote DfS.

“COP has more than 20 alumni factories who volunteer to share their thoughts or learn from alums, e.g., one competitive denim producer invites others to his factory to apprise them of its chemical management. It is the success of this project.” (Technical team representative GIZ)

COP is also exercising mimetic pressures on the sector. For instance, the knowledge and learning from this network do not stay with its participants only, rather it flows into the sector when peers start to mimic the best practices of market leaders (e.g., Interloop, Crescent Bahuman). GIZ technical team representative shared, “we work with market influencers e.g., Masood Textile. If Masood is doing something that influences others. SMEs or large businesses would follow ones like Masood”.

**Table 6.6 Roles of GIZ in capacity development**

First Order Codes	Second Order Concepts	Aggregate Dimension
Conduct studies and share them with stakeholders	Provide knowledge	Capacity development for compliance with international standards
Share international best practices case studies		
Conduct training with activities		
Facilitate informal source of learning: COP		
Facilitate partner factories to conduct baselines	Empower to identify problems as problems	
Facilitate partner factories to identify their issues		
Facilitate partner factories to identify solutions		
Facilitate partner factories to make action plans	Empower to implement the best alternatives	
Advise partner factories about technical issues in action plans		
Encourage partner factories to implement solutions		
Provide supervisory and/or technical support in the implementation process		
Arrange international tours for partner factories	Give exposure to partner factories	
Create ‘success examples’ from leading factories and create a demonstration to follow		
Maintain an informal network of alumni factories		

Source: Author’s own

Altogether, GIZ has assumed the role of PI sponsor in promoting international best practices for sustainability in the textile sector. This is because GIZ is exercising institutional pressures to alter existing working norms, practices and technologies through its DfS. The first component of DfS, the CMT, exercises normative and mimetic

isomorphic pressure on participant factories to adopt best practices through capacity development. As its activities are improving the knowledge base, problem-solving skills, and solution implementation skills in participant factories, the CMT alters existing norms and meanings of production in favour of sustainability. It also alters the existing belief system that defines legitimacy and competitiveness in favour of sustainability. These alterations and reconfigurations of sustainability consequently result in replacing existing working practices and technologies with the best alternatives.

The second component of the DfS, the COP network, exercises normative and mimetic isomorphic pressures. The normative pressure stems from activities such as knowledge sharing and learning from the experiences of alumni factories in becoming internationally competitive. In a way, COP works as a tool of GIZ for enforcing and reinforcing new norms and practices in factories. However, COP relatively exerts more mimetic pressure. For instance, some of the GIZ's participants and alumni are renowned large-scale manufacturers (e.g., Masood Textile, Interloop and others) and medium-to-large-scale manufacturers (e.g., Gohar Mills, Ahmad Jamal, Cotton Web). The peers start to mimic changes that these market leaders have adopted. This pressure to mimic also forces and reinforces new norms and technologies in the sector. "We have done projects on productivity and labour conditions with smaller-scale firms but our projects on the environment were with wet-processing with medium-to-large-scale firms" said the technical team representative of CPI.

The third component of DfS (GIZ Pakistan, 2021): 'Multipliers' are the organisations that will continue DfS even after GIZ projects end (GIZ, 2022a). These multipliers are also exerting institutional pressures, more normative and less mimetic. As technical team representative said, "we need multipliers who should further sustain DfS. [X Y Z] multipliers are giving quality services... we are capacitating [A, B, C] for environmental issues. These eight to nine organisations are our multipliers. Their capacity development process is ongoing". However, it is important to note that SMEs did not benefit from this way of institutionalising sustainability, as such. It implies that CPI addressed the institutional void but the institutional gap in cleaner production persists.

#### **6.1.4. WWF-Pakistan (WWF-Pak)**

WWF-Pak has assumed a proto-institutional role in addressing various gaps in the sector by sponsoring multiple activities that exert normative and mimetic institutional pressures to promote sustainable production norms and technologies in the sector. All these activities have been summarised into three roles for analysis: the educational role, the capacity-building role and the collaborative role and each of these roles is addressing all three gaps.

In the first two roles, WWF-Pak is conducting awareness sessions and training workshops that aim to help textile sector stakeholders know about their environmental footprints and possible green alternatives that can adopt to become pro-environmental. For instance, WWF-Pak did presentations to various public sector departments, institutions and the textile sector to make them aware of the environmental implications of the textile sector, said a senior executive of WWF-Pak. In the recent past, it has signed MOUs with two national research institutions for promoting awareness and capacity building of textile manufacturers (MUET, 2021, NTU, 2021b). It has a set of best practices manuals to facilitate textile manufacturers in standardising their procedures, reducing their wastage and promoting overall efficiency (Ezdi, 2014). WWF-Pak continues to promote labour and environmental standards in this sector under the EU-funded collaborative project with the ILO (Table 6.7). WWF-Pak is responsible for capacity building of industry on environment-related issues while ILO is working on labour standards (ILO, 2021). This project is ongoing during this study. These findings resonate with the extant literature on supportive roles of intermediaries in promoting sustainability e.g., (Ortolano et al., 2014, Puppim de Oliveira and Jabbour, 2017, Wahga et al., 2018b).

The third role of WWF-Pak is collaborative networking. The network comprises business associations, public sector organisations, not-for-profit organisations and various national and international research institutes (Table 6.7). The business associations acknowledge and appreciate WWF-Pak for promoting pro-environmental changes in textile manufacturers, especially SMEs. "PTEA liaised with WWF for creating awareness in SMEs and later on WWF worked on a sample of small units and formally trained SMEs

for addressing environmental issues”, said the PETA secretary. Similarly, peer organisations who are also working to promote sustainability in the textile sector acknowledge the WWF’s roles. For instance, while discussing the effectiveness of major organisations in promoting pro-environmental, Manager CPI said that WWF-Pak is a good and effective organisation working for the environment.

**Table 6.7 Role of WWF-Pak in improving environmental governance**

First Order Codes	Second Order Concepts	Aggregate Dimension
Highlighting environmentally damaging working practices to public offices	Inform stakeholders about environment impacts	Helping industry adopt sustainable practices
Create awareness in firms and PSOs about environmental damages in industry.		
Inform firms about economical solutions for resource efficiency		
Collaborated with international organisations to build cleaner production capacity of firms.	Forge a collaborative network of stakeholders	
Networked with business associations to access firms and impart training		
Network with NFPO to diffuse eco-innovative solutions and practices		
Network with national and international research institutes for eco-friendly solutions.		
Address knowledge gap through reports and best practices manuals	Address multiple gaps	
Address policy gaps by drafting policies and commentaries		
Address compliance and best practices gaps in industry through training and seminars		

Source: Author’s own

WWF-Pak claims that it is addressing the policy gap since it has emerged as one of the major stakeholders of environmental protection in Pakistan. It has been producing evaluation reports of existing working practices (Farooq, 2018, Noor et al., 2018) and commentaries on existing environmental laws (Alam, 2018, Sial et al., 2018). It asserts that it is highlighting policy issues at high-level meetings and commenting on existing environmental regulations to promote better policy work for sustainable production. However, this study could not triangulate this claim because access to public documents and meetings is restricted. This collaborative role of WWF-Pak as an intermediary for promoting a cause is aligned with the extant literature, e.g., (Poulton et al., 2010, Klewitz



et al., 2012, Clarke and Ramirez, 2014, Gliedt et al., 2018, Kanda et al., 2018, Ramirez et al., 2018, Eanes et al., 2019).

It is important to ascertain that while assuming a proto-institutional role, WWF-Pak is not working as a 'parallel (informal) institutional structure' to pre-existing formal institutions rather it was working as a compensatory institutional arrangement promoting the effectiveness of formal institution's effectiveness. A possible question to explore further is whether PI sponsors develop into a 'parallel institutional structure' and either merge or replace the pre-existing formal institutional arrangements in the contextual settings of this study. That would require a longitudinal study with more time and resources.

#### **6.1.5. USAID Small and Medium Enterprise Activity SMEA**

Textile SMEs comprise a majority of the national textile sector, but they are lacking formal institutional support for technical and financial needs. The formal institutional setup: State Bank of Pakistan (SBP), SME Bank and others have complex and strict credit lending criteria for SMEs because of high default risks, which means that only some SMEs benefit from the existing formal financial setup. It leaves an institutional gap in terms of financial support to SMEs. Small and Medium Enterprise Activity (SMEA) has addressed this institutional gap for five years after which this USAID-funded project concluded (November 2016 – November 2021). Chemonics International Inc., the implementation partner of the USAID SMEA Project played various roles to alter existing norms and practices in favour of sustainable production. It undertook various activities to this end such as creating awareness in SMEs<sup>29</sup>, developing their capacity for international certifications and extending support to deploy modern technologies at their workplaces (Table 6.8).

The first role that SMEA played was educating SMEs. Chemonics delivered an awareness session about the potential benefits of international certifications for SMEs. For instance, SMEA collaborated with associations and the FCCI to deliver awareness

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<sup>29</sup> Chemonics relies on SBP's definition of SMEs, i.e., an entity, ideally not a public listed company, that has fewer than 250 employees and total assets at cost excluding land and buildings of up to Rs 100 million.

sessions about business development services in more than one hundred micro, small and medium enterprises (USAID, 2020, p. 33). This finding is consistent with the literature on intermediaries, e.g., (Puppim de Oliveira and Jabbour, 2017).

**Table 6.8 SMEA addressed the financial assistance gap**

First Order Codes	Second Order Concepts	Aggregate Dimension
Create awareness in SMEs about certifications and their benefits	Create awareness	Help firms in adopting standards
Share cost of SMEs in developing ERP systems, e-commerce tools	Give matching grants	
Share the cost of SMEs in obtaining certifications required for entering the export market		
Train employees and management during the certification process	Give technical support	
Help in adopting SOPs at the workplace during and after the certification process		

Source: Author's own

The second role that SMEA played was capacity building of SMEs. Chemonics conducted a range of training workshops to prepare SMEs' management staff and their employees for meeting the criteria set for various national and international compliance certificates. It shared as much as 75 percent of the total cost that SMEs accrued in securing international compliance certifications. A representative of the SMEA Project mentioned, "as part of our help with certification, we provide awareness about workplaces, procedures, equipment and people, along with training and changing SOPs". The implementation partner also provided auditing and consultancy support to SMEs. USAID (2020, p. 28), the latest available annual progress report of this project shows that a total of 134 textile SEMs received training and business support services in four years (e.g., compliance certifications and digital marketing). Similarly, SMEA shared the cost of ERP software in 12 SMEs during the reporting period (USAID, 2020, p. 36).

The third role was deploying technology in registered SMEs. Chemonics gave financial assistance to SMEs to help them in deploying enterprise resource planning (EPR) systems and opting for digital marketing to boost sales (Table 6.9). SMEA also gave financial support in form of grants for growth and grant for innovation, for instance, *Colour Pakistan*, and *Zarko Textiles* for buying the latest machines and software to

further diffuse sustainable production norms at their workplaces (USAID, 2020, pp. 48, 50). Similarly, SMEA's role of financial assistance to SMEs in form of matching grants for business development services, e.g., international certifications and e-commerce tools. This role is also consistent with empirical studies like (Klewitz et al., 2012, Polzin et al., 2016). The fourth role that SMEA played was technical assistance in SME Policy 2019. 'SMEA agreed designing and executing a potential endowment/SME development fund, undertake sub-sector analysis for regulatory guillotine, and helping in integrating SMEA's BDSPs with SMEDA' (USAID, 2020, p. 13).

**Table 6.9 SMEA Project activities promoting sustainable production norm**

<b>Sr. No.</b>	<b>One-year activity details (October 2019 to September 2020)</b>	<b>Page</b>
1	One hundred and thirteen (113) awareness sessions about business development services were conducted	33
2	Thirteen (13) textile exporter SMEs received audits and consultancy services.	39
3	Thirteen (13) textile exporter SMEs shared 25 percent of the total cost for international certifications: WRAP, Customs-Trade Partnership Against Terrorism, SEDEX, BSCI, Ecotax 100, and ISO 9001, 14001, and 45001	39
4	Sixty-five (65) textile MSMEs received United State Grant assistance	86
5	As many as 47 percent of all SMEs have installed new technology and adopted better management practices	91
6	Fifty-eight (58) textile personnel in SMEs received skills development training	92
7	As many as nine percent of all textile SMEs that received USAID can sell in new markets	92
8	Four SMEs shared their cost of national/international certifications with SMEA	93

Source: Author's formation from USAID (2020).

The IT lens shows that SMEA played a proto-institutional role while sponsoring activities for its four roles. These activities have been exerting normative pressures on registered SMEs to become sustainable and competitive through cost-sharing facilities like compliance-related certifications, and grant facilities to upgrade production setup with modern machinery and software. The auditing and consultancy services further exerted normative pressure, therefore pushing SMEs to adopt standard practices at the workplace and improve their overall efficiency. As many as 47% of all SMEs enrolled in SMEA projects installed new technology and adopted better management practices. Table 6.9 presents a set of evidence depicting the role of SMEA in introducing and diffusing sustainable production in registered SMEs.

The strengthening of SMEA's Business Development Service Providers (BDSPs) also sourced normative pressures in favour of better and more efficient alternatives. The provision of these services will help SMEs comply with international quality and safety standards, meet buyer requirements, and access new markets to increase their exports/sales by adopting a wider range of demand-driven business development services (USAID, 2020, p. 28). There is potential for BDSPs to cast mimetic isomorphic pressure in two scenarios. First, BDSPs share success stories or best practices examples with new SMEs requiring BDSPs services. Second, if the proposed integration of BDSPs with SMEDA happens since in this case BSDPs could share their knowledge, experiences and success stories at national SMEs under the auspices Small and Medium Enterprise Development Authority (SMEDA).

The question of how long SMEA's proto-institutional role would remain effective and relevant is difficult to answer because the extant literature on the effectiveness of intermediaries shows that it depends on factors such as aim and ownership structure, support from intermediaries, the embeddedness of intermediary in institutional field (Ortolano et al., 2014, Mignon and Kanda, 2018, Ramirez et al., 2018). In the words of an SMEA project representative, "The government is responsible for ecosystem development and private sector bodies, or individuals take such initiatives when the government fails to do so." It implies that the SMEA project demonstrated an arrangement that the public sector could follow to develop a business development ecosystem for SMEs to achieve necessary certifications to comply with resource-efficient and cleaner production practices. Alternatively, the government could collaborate with USAID to allow informal institutional arrangements to emerge and compensate for weaknesses in formal institutions. In summary, SMEA assumed a proto-institutional role in promoting sustainable production in registered SMEs through a set of roles that sourced both normative and mimetic pressures. Both pressures do not create a parallel institutional structure rather they are complementing existing infrastructure: SBP, SME Bank and other financial intermediaries. Hence, SMEA's roles are compensatory only.

#### **6.1.6. Section summary**

Proto-institutional sponsors are promoting pro-environmental changes in textile manufacturers through their roles which include promoting education, creating awareness, capacity building and skills development, consultation services in technical and non-technical aspects, support for commercial R&D and financial assistance in form of matching grants for business development services). While doing so, these sponsors have been exerting normative pressures (e.g., introducing and diffusing cleaner production / sustainable production as alternatives to the status quo in the sector) and triggering mimetic pressure (e.g., CPI have been cross-posting success stories of cleaner production across clusters and sectors and that have led firms to mimic the successful peers). These finding, e.g., about normative pressure are consistent with the extant literature such as (Hoffman, 1999, Delmas and Toffel, 2004, Berrone et al., 2008). However, the difference is in the context of these studies: diverse types of industries that too are studied in developed world context. And the realities of a developed world do not necessarily represent realities of developing country context (e.g., nature of institutions, vision of entrepreneurs and overall ecology of the industry). It shows that intermediary organisations have the potential to impact manufacturing sector firms in a developing world context. The next section presents an in-depth analysis of how these intermediary organisations exercise normative and mimetic institutional pressures to create isomorphs that undertake resource-efficient and cleaner production. It sheds light on the observation that these proto-institutional sponsors, as Zietsma and McKnight (2009) noted, are sponsoring the informal 'proto-institution' of resource efficient, sustainable and cleaner production. For reference to concepts: proto-institutional sponsors are a group of actors who initially create proto-institution (Zietsma and McKnight, 2009), which are 'practices, technologies, and rules that are narrowly diffused and only weakly entrenched, but that have the potential to become widely institutionalized' (Lawrence et al., 2002, p. 283).

#### **6.2. Comparative analysis of institutional work of proto-institutional sponsors**

Proto-institutional sponsors provide support to formal institutions. The support does not replace formal institutions, but rather fill the gaps and voids in the formal

institutional arrangement. And by allowing proto-institutional sponsors (PI sponsors) to collaborate with formal institutions, there is greater potential for effective promotion of resource-efficient, sustainable and cleaner manufacturing of textiles as well as their compliance with international sustainability standards. Ngoasong and Kimbu (2016) have suggested similar benefits while discussing the case of informal microfinance institutes in connection with small tourism firms in Cameroon. Before reaching at this assertion, the following subsections present the comparative analysis of roles and illustrate how these intermediaries have sponsored proto-institution (PI) of resource efficiency, sustainable and cleaner production.

### **6.2.1. Comparing the roles of PI sponsors**

This subsection presents a comparative analysis of roles of PI sponsors in advancing sustainable environmental practices in textile firms. The commonality among roles of these sponsors is that they address the gaps in knowledge through educating roles, gaps in skills through training workshops and the gap that exists between support the firms currently have as compared to what firms need to undergo pro-environmental changes (such as technical consultancy, non-technical consultancies, financial support). Some intermediaries participate in policy work or impact legal instruments while others do not. However, with in common roles, sponsors' activities happen to differ from each other (reported below). These sponsors also vary based on size of firms they target and status of firm with regards to firms' participation in international market. In fact, the roots of intermediary (whether national or an international) also determine the nature and scope of its roles in advancing sustainable practices in the sector.

#### **6.2.1.1 Educating and building skills**

Each PI sponsor arranges awareness-creating events and seminars about the environment deteriorating impact of existing working practices and technologies in the sector, but each PI sponsor has a different focus and audience. My reflections on discussions I had with stakeholders of resource efficiency and cleaner production in the sector point out SMEs, who comprise a vast majority of the sector (Appendix B), undertake a few practices owing to various factors enlisted in Sections 2.3.1. Of these factors, lack of awareness of the adverse impacts of firms on nature is pertinent to

consider, and as Sattar (2022a) when the case is such that SMEs are aware of their environmental impacts, they lack the technical and financial resources to reduce these impacts. For instance, SME 1 and 4 pointed out lack of knowledge and finance for using outdated technology. As a result, most of the sector is in dire need of 'awareness' and 'technical skills', and PI sponsors thus promote awareness creation events and seminars only aimed at creating awareness. As shown in Table 6.10, the national PI sponsors (NTU and CPI) are concerned mainly with industry and its stakeholders, while the international PI sponsors (WWF-Pak) also work with PSOs. These sponsors introduce green alternatives (practices and technologies) to help manufacturers reduce their environmental footprints. For instance, WWF-Pak creates awareness among manufacturers and industry stakeholders about the environmental hazards that arise from existing practices and processes of manufacturing in the sector. CPI conducts seminars for industry and relevant stakeholders and appries them of alternatives: cleaner practices and technologies for textile processing through seminars on the platform of business associations. NTU invites industry, PSOs and third-sector organisations, to deliver seminars and workshops which aim to introduce sustainable production practices and processes of textile manufacturing to them.

NTU also provides technical support to firms in this regard. These roles for educating the industry are consistent with empirical studies which analyse cleaner production in the tanneries sector of Pakistan (Ortolano et al., 2014, Wahga et al., 2018b). However, one national and two international PI sponsors have created a knowledge base for the sector. The other PI sponsors remain concerned with awareness creation only. The sponsors also conduct skills development training to help manufacturers adopt pro-environmental alternatives. However, only one national and one international PI sponsor have been concerned especially with international certifications. Otherwise, CPI conducts skills development training promoting cleaner production and resource efficiency in the sector. GIZ conducts water management and energy efficiency training for its partner firms. Both GIZ and SMEA focus on creating success stories about the benefits of adopting eco-friendly practices and technologies to trigger demonstration effects on peers in the sector.

**Table 6.10 Role in education and capacity building of firms**

	<b>Nationally rooted intermediaries</b>		<b>Internationally rooted intermediaries</b>		
	<b>NTU</b>	<b>CPI</b>	<b>WWF-Pak</b>	<b>GIZ</b>	<b>SMEA</b>
<b>Concerned segment</b>	Medium and large firms	SMEs and large firms	SMEs and large firms	Medium and large firms	SMEs
<b>Create awareness about</b>	Sustainability in textile products and processes among students, firms and business associations	Environmental footprints of status quo practices and inform about cleaner alternatives	Environmental implication, green alternative to industry and stakeholder	International best practices of management and processes in partner factories	How to do international certifications and what are their benefits for SMEs
<b>Create Knowledge base/knowledge exchange</b>	Develop prototypes of innovative input or products and devolve skills for commercialisation	–	Publish best practice manuals for the sector	Discussing best practices with partner factories, develop their capacity and let them learn from COP	–
<b>General training</b>	Sustainability related skills development	Skills and knowledge for cleaner production practices and technologies	Skills and knowledge for best practices necessary for compliance	Skills to identify problems and solutions for sustainable production	–
<b>Training for certifications</b>	–	e.g., Environmental Management System (EMS): ISO 14001	–	–	e.g., ISO 14001, quality management (ISO 9001), harmful substances tests (OEKO-TEX 100)

Source: Author's own

WWF-Pak does arrange skills development training, but it stands out from other sponsors through its collaborations for publishing best practices manuals, thus improving the knowledge base of the sector. These skills development activities



resonate with the literature on intermediaries imparting skills to adopt eco-friendly alternatives (Polzin et al., 2016, Thongplew et al., 2017, Eanes et al., 2019).

All these components of the educational role of PI sponsors are efforts to redefine existing meanings of working practices and production processes in favour of sustainability. The awareness and knowledge creation activities are creating a pro-environmental business perception in the manufacturers to compete with the status quo perception, which is business for profit only<sup>30</sup>. Training for skills development, on the other hand, is empowering manufacturers to actualise their pro-environmental perceptions. Together, these efforts for changing perception and providing skills for practising the perception, introduce and redefined meaning. However, the degree to which pro-environmental working practices and processes will remain embedded in the organisational field is dependent upon consistency in the educational role of sponsors for this textile manufacturing sector.

#### **6.2.1.2 Technical, non-technical and financial support to firms**

The PI sponsors are extending technical and non-technical support to textile manufacturers, another role those formal institutions are failing to play. Both nationally rooted PI sponsors (CPI and NTU) address sector's technical gap through commercial research and development activities to introduce and diffuse eco-friendly technologies (Table 6.11). This finding about sponsors' technical support is consistent with the literature documenting the supportive role of intermediaries in the pro-environmental transformation of firms (Kanda et al., 2018, Kivimaa et al., 2019). CPI provides cleaner production solutions in the sector, such as primary treatment plants and resource efficiency projects. However, these are primarily targeted at SMEs, though their reach is limited. NTRC, on the other hand, conducts industrial research and development, for example, developing hemp fibre for the textile industry and other technical and sustainable textiles, but most of this assistance is provided to large-scale manufacturers. Standing out from others, GIZ is working with a comprehensive and systematic approach. It is institutionalising DfS, which empowers textile firms to identify issues in

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<sup>30</sup> Researcher believes that these educational and skills-building activities are creating and promoting sustainable production logic to challenge the status quo logic of business for profit only.

their practices and processes, design relevant action plans and execute plans at their workplaces. This non-technical support role of sponsors is in line with the relevant extant literature such as (Millar and Russell, 2011, Thongplew et al., 2017).

**Table 6.11 Roles in technical and non-technical and financial assistance to firms**

	Nationally rooted intermediaries		Internationally rooted intermediaries		
	NTU	CPI	WWF-Pak	GIZ	SMEA
<b>Concerned segment</b>	Medium and large firms	SMEs and large firms	SMEs and large firms	Medium and large firms	SMEs
<b>Commercial R&amp;D support</b>	Innovating, troubleshooting , developing products, testing services	Designing and implementing energy efficiency projects	–	–	–
<b>Customised solutions development</b>	Developed hemp fibre, banana fibre from banana waste	Designed and install waste treatment plants for all size firms	Commission R&D for eco-friendly solutions	–	–
<b>On-the-floor technical services</b>	Efficiency e.g., co-and-counter current water flow, renewable energy	Meeting international standards for cleaner production	–	To implement best practices plans	–
<b>Auditing services</b>	Environmental and energy audits	Environmental and energy audits	–	–	–
<b>Financial assistance</b>	–	–	–	–	Matching grants for development
<b>Technical support to PSOs</b>	R&D Support to ministry for RECP in textile	Technical support to PSOs	-	Project based as and when needed	Project based as and when needed
<b>Policy work</b>	–	Baseline reports for RECP (World Bank, 2019)	Drafting and commenting on policies (e.g., textile and climate)	–	–

Source: Author's own

Altogether, the technical and non-technical support from PI sponsors is a step to further strengthen their competitive green alternatives perceptions. The normative and

mimetic pressures, the informal network COP that carries on the DfS, close working with PSOs and work on policy and legal instruments, all are empowering firms to adopt pro-environmental changes (Table 6.12). However, the degree to which the perception of green alternatives will diffuse depends on the persistence of the support base, favourable attitude of firms towards the natural environment and strength of self-activating support mechanism.

### **6.2.2. The multiple levels of institutional pressure on PI sponsors**

Roles of PI sponsors in advancing pro-environmental changes are focused on three levels (from lower to top): firm, cluster, institution and at the firm level. At cluster level, the sponsors are engaged in forging collaborative networks with stakeholders to arrange funds from international donors for R&D, create a knowledge base, develop eco-friendly solutions, conduct training and create awareness. An international bilateral development organisation (GIZ) that assumed a proto-institutional role for sustainable/responsible production in the sector through an informal network of alumni factories to institutionalise sustainable practices in the industry. Some sponsors are collaborating to strengthen industry-academia linkages (Subsection 6.1.1) whereas some are engaged in capacity building of public sector organisation – EPA (Subsections 6.1.1 and 6.1.2). Therefore, at the cluster level, the stakeholders are supporting PI sponsors in their objectives.

At the institutional level, the sponsors are addressing institutional gaps and voids. For instance, CPI has addressed the institutional void through reflexive action to create a cleaner production institute for the industry. WWF-Pak is working on multiple gaps: knowledge gap, policy gap and information gap. NTRC is addressing the technology gap through research and development on textiles for industry (Table 6.12). The bilateral development organisations are providing missing support: matching grants to SMEs and capacity building of textile manufacturers. The PI sponsors working at multiple levels are attempting to alter meanings. The sponsors are altering the meaning of work practices and production processes. Resultantly, by redefining the meaning of work practices and feeding back to policies, the sponsors have tried to influence the belief system in favour of sustainable production.

**Table 6.12 PI sponsors' institutional pressures for sustainable practices in firms**

		Nationally rooted intermediaries		Internationally rooted intermediaries		
		NTU	CPI	WWF-Pak	GIZ	SMEA
Self-activating support	<b>Concerned segment</b>	Medium and large firms	SMEs and large firms	SMEs and large firms	Medium and large firms	SMEs
	<b>Source normative pressure</b>	Enabling leading firms adopt sustainable products and practices	Introducing and diffusion competing meanings of production - cleaner production	Changing the legitimately base of production from status quo to sustainable production	DfS continues to add 'sustainability' in concepts associated with practices and processes	Introducing norm of 'internationally compliant production' through BDS
	<b>Source mimetic pressures</b>	Demonstrate benefits of resource efficient alternatives	Entice peers about benefits of cleaner alternatives	Document and spread benefits of sustainable practices	Create success stories from partner firms	Demonstrate success stories of BD
	<b>Forged informal support network</b>	–	–	–	COP: source of learning from alumni factories	–
	<b>Assist and/or collaborate with PSOs</b>	R&D for Ministry of Commerce	–	Feeds back on policy drafts	–	–
	<b>Policy work</b>	–	Baseline reports for RECP (World Bank, 2019)	Drafting and commenting on policies (e.g., textile and climate change, PEPA 2012)	–	–
	<b>Limitations of PI sponsors' impact</b>	Limited funding and outreach	Limited to donor funded projects	Limited funding and R&D infrastructure	Time-bound projects	Time-bound project

Source: Author's own

Table 6.13 above shows the PI that mark their presence in the sector along with formal institutions and they have arisen from sponsorship of resource efficiency, cleaner production, sustainability by the previously and widely discussed PI sponsors. Prior to PI and their sponsors, firms used to show lesser care for environmental and labour standards whereas now firms display stronger commitment for improving their performance to adopt pro-environmental changes. However, the observations from fieldwork suggest that changes in meaning (of productions) and changes in basis of legitimacy (sustainable production as new legitimate) have yet not happened throughout the organisational field, i.e., a few firms adopted new meanings, but it will take time to get diffuse in the field which show the conflicting logics (profit maximising logic vs. resource efficient and cleaner production logic). A rich description of day-to-day changes in working practices at firm level could help in understanding the competing logics and their resultant. For example, (Heaphy, 2013) explored daily institutional maintenance that goes unseen in retrospective case studies.

**Table 6.13 Proto-institutions resulting from roles of PI sponsors**

	<b>Nationally rooted intermediaries</b>		<b>Internationally rooted intermediaries</b>		
	<b>NTU</b>	<b>CPI</b>	<b>WWF-Pak</b>	<b>GIZ</b>	<b>SMEA</b>
<b>Concerned segment</b>	Medium and large firms	SMEs and large firms	SMEs and large firms	Medium and large firms	SMEs
<b>Proto-institutions</b>	Commercial R&D promoting resource efficient and sustainable processes	Technical and non-technical support in cleaner production	Awareness work: introducing and diffusing sustainable production practices	Skills development for sustainability in processes	Financial assistance for BDS

Source: Author's own

According to the variety of PI (Table 6.13), the diverse roles of PI sponsors (e.g., advocacy work, skills development and business support (see Table 6.10 and Table 6.11) along with self-activating support mechanisms: isomorphic pressures, diffusion of DfS through COMs and multipliers and policies and laws (see Table 6.12), are continuing to change the meaning and moral foundations of production to support sustainability. Nevertheless, there are limits to which these sponsors can generate impact since examples from the extant literature show that intermediaries are limited by their scope

(Mignon and Kanda, 2018), their skills (Clarke and Ramirez, 2014), their source of funding (Wahga et al., 2019) and their degree of embeddedness in the institutional field (Ramirez et al., 2018). Furthermore, Table 6.12 highlights that PI sponsors are also constrained by their scope of work, project duration, and limited financial resources. Therefore, this study proposes that if these PI sponsors continue to alter meanings, practices, and belief systems in the textile sector, they might result into an institutional change (IC) which may represent as creation of a new formal institution or an existing institution modifies into a formal institution. However, a longitudinal study would be needed to discuss the outcome of institutional change process, a potential avenue for future research.

### **6.3. Chapter summary**

This chapter builds on the key finding from the previous chapter - weak and missing institutions led to intermediaries emerging as proto-institutional sponsors and filling gaps and voids in the institutional landscape of Pakistan's textile sector. This chapter describes and analyses the roles of proto-institutional sponsors in advancing sustainable practices in textile manufacturing firms. The within and cross-case analysis in this chapter indicate that proto-institutional sponsors tend to target a specific type of firm size, adopt different modes of knowledge transfer, and participate in various activities to introduce better alternatives, build skills, and assist firms in implementing pro-environmental changes. A common element of all proto-institutional sponsors is collaborative work and two roles: education and skill development, and technical and non-technical assistance in promoting resource efficiency, sustainability, and cleaner production. These changes have enabled firms to adopt more economical, sustainable, and environmentally friendly alternatives. In doing so, these intermediaries have created proto-institutions, The combination of Institutional Theory and Stakeholder Theory has helped in identifying that it is through interaction of stakeholders with proto-institutional sponsors that the informal institutional arrangement in organisational field of Pakistan's textile sector helped sponsors in exerting normative and mimetic pressure on firms in the sector.

Additionally, the analysis reveals that, except for the NTU research infrastructure, there are no dedicated public sector organizations that can provide consistent support to the sector. All other intermediaries are private sector organizations and that is a concern. It is concern because proto-institutional sponsors are constrained by factors such as their purpose, focus, longevity, and funding. These factors have a significant impact on the ability of Proto-institutional sponsors to continue to make a positive impact on the sector and relevant public sector organisations. Therefore, the government could adopt or collaborate with these proto-institutional sponsors to promote sustainable practices in the future. In the next chapter, I compare the roles of formal and proto-institutional sponsors and conclude this study with a discussion about the study's contributions, limitations, future directions, and recommendations for policy and practice.

## **Chapter 7 Discussion and conclusions**

### **7.1. Introduction**

This study has critically explored within and cross-case analyses that revealed roles of formal and proto-institution in promoting sustainable environmental practices in an economically vibrant, SME-dominated, manufacturing sector of a developing country through a theoretical lens that integrates New Institutional Theory and Stakeholder Theory.

Pakistan's textile sector presents a suitable contextual setting for this study considering its environmental implications of being the prime employer of the national labour force and being the highest exporting sector of Pakistan's economy. Previously, there have been empirical investigations into the roles of formal institutions or intermediary organisations in promoting sustainable manufacturing in developing country contexts (Ortolano et al., 2014, Samad et al., 2015, Wahga et al., 2018b, Wahga et al., 2019, Naqvi et al., 2020, Nawab, 2020), but those investigations lack a comprehensive look into the emergence, development and impacts of proto-institution concerning sustainable production (SDG 12). This study applied an integrated framework from different strands of the literature to present significant findings. These findings suggest that formal institutions responsible for environment friendly production were partially effective; local and international intermediaries assumed proto-institutional roles through collaborative networking among actors in the organisational field; attempting to alter the normative association between manufacturing practices and environmental implications in favour of resource-efficient and cleaner production through addressing of institutional gap and voids; working as compensatory proto-institutional arrangement for supporting weak and/or missing formal institutions to promote sustainable production. These findings are of value for stakeholders of resource-efficient and cleaner production in manufacturing concerns.

To arrive at the findings, this study explored and analysed why and how intermediaries assumed proto-institutional roles to promote sustainable environmental practices. The extant literature lacks empirical investigations into such a scenario, especially in



contextual settings similar to this study (the intersection of three themes of literature: sustainable practices, SMEs and proto-institution). To fill this research gap, the relevant literature from the following sources was brought together: environment friendly businesses and ecopreneurship (Klewitz et al., 2012, Díaz-García et al., 2015, Blundel and Hampton, 2021, Piwowar-Sulej et al., 2021, Tiba et al., 2021), the drivers and barriers to sustainable practices in SMEs (Brammer et al., 2012a, Williams and Schaefer, 2013, Ortolano et al., 2014, Wahga et al., 2018b, Islam et al., 2020, Blundel and Hampton, 2021), the supportive and institutional roles of intermediaries (Clarke and Ramirez, 2014, Polzin et al., 2016, Thongplew et al., 2017, Ali and Frynas, 2018, Gliedt et al., 2018, Kanda et al., 2018, Kivimaa et al., 2019), the institutional work (IW) and institutional change (IC) processes (Lawrence and Suddaby, 2006, Helfen and Sydow, 2013, Schüßler et al., 2014, Herold et al., 2019) and the proto-institution (Lawrence et al., 2002, Zietsma and McKnight, 2009, Gómez and Atun, 2013, Kleinaltenkamp et al., 2018, Smolka and Heugens, 2020). Using these diverse literature sources, this research developed an integrated theoretical framework (Section 4.1) and applied it empirically to Pakistan's textile industry. Initial results from the pilot study were used to refine the framework and develop the process of theory elaboration, further.

The analysis of environmental compliance in Pakistan's textile sector suggests that three types of SMEs – the distant, the progressive and the compliant SMEs are operating in the sector (Section 5.1). The exploration of the emergence and development of intermediaries into proto-institutional sponsors (Sections 5.2 and 5.3) shows that stakeholder in the sector went on to forge collaborative networking among actors and that collaboration resulted in creation of proto-institutions. The extant literature records that an actor from within an institutional field can act deliberately in a way that causes the emergence (Boxenbaum, 2004) or an exogeneous shock in the form of new or changed rules, practices or technologies that have potential to cause tension in an institutional field and result in initiating proto-institutional work (Kleinaltenkamp et al., 2018). Whereas, in the contextual setting of this study, the actors behind collaborative networking were stakeholders, both local and external to the organisational field. This study has identified two causes of the emergence of proto-institutional sponsors (PI Sponsors): first, institutional voids in the technical assistance and the cleaner production

assistance to the sector and second, institutional gaps in awareness and knowledge creation, training and development, access to financial assistance, and communication between sector and PSOs. It appears from the literature that under-servicing of stakeholders' purposes (Helmke and Levitsky, 2004, Klewitz et al., 2012, Harrison et al., 2018, Wang et al., 2019) may also cause new institutions to emerge, but this has not been noted as an explicit cause in the study. The extant literature also notes that proto-institution are the outcome of inter-organisational collaboration of actors in an institutional field e.g., inter-organisational collaboration among intermediaries (Lawrence et al., 2002), coalition formation interest of NGOs (Gómez and Atun, 2013) and dialectic IW of entrepreneurs and regulators in form of structured interaction (Smolka and Heugens, 2020). However, in this research, they emerged in a rather unique way: through collaborative networking among actors in the field (i.e., industrialists collaborated to create NTU and CPI); through inter-organisational collaboration between intermediaries (i.e., ILO, EU and USAID, WWF-Pak collaborated to create proto-institution of resource efficient and cleaner production (RECP)); and through government-to-government collaboration (GIZ projects to institutionalise sustainability in the sector). This contributes to our understanding of the emergence and the development of proto-institution by reporting that: (a) multiple impetuses could drive the emergence of new proto-institutions; (b) collaborations between organizations could be in a variety of ways; and (c) actors from within and outside of the organizational field could initiate proto-institutional work processes in developing countries.

The exploration and analysis of roles of proto-institutional sponsors in advancing sustainable practices in the sector despite the presence of formal institutions (Chapter 6) by using hybrid theoretical framework (Section 4.1) to look closer into the diffusion and entrenchment of actors' reflexive actions within and beyond the boundaries of collaborations causing institutionalisation (Lawrence et al., 2002), have detected prominent roles of stakeholders of sustainable production in the sector. This finding corresponds with the observation of Lawrence et al. (2009) that stakeholders participated in IW process, and has addressed their call to empirically investigate into IW process (that is otherwise under researched). Furthermore, findings from this chapter addresses the gap in evidence from developing countries, especially in the

context of one of the grand challenges of our times (sustainable/responsible production). A detailed discussion on proto-institutional work, detected in Pakistan's textile sector, is presented in Figure 7.1 and explained in the following section. The figure may give the impression that proto-institutional work is linear, but this is not the case because the process unfolded nonlinearly; however, I have represented it in this way for clarity.

#### **7.1.1. Proto-institutional work**

Intermediaries, who assumed proto-institutional sponsors role in context under exploration, sponsored a variety of proto-institution. They did so by promoting sustainable environmental practices in the sector through the educational role (awareness and knowledge creation), capacity building role (skills development training), consultation services (both technical and non-technical), technical assistance in resource-efficient and cleaner production (through commercial R&D and customised cleaner solutions), financial assistance in business standardisation and development (cost sharing and matching grants) and policy work. Extant literature suggest that such roles could exert non-regulatory pressures on firms (Hoffman, 1999, Delmas and Toffel, 2004, Berrone et al., 2008) but the limitation of these evidence is that they are from a developed world context. This study adds to the extant literature by reporting similar findings – non-regulatory institutional pressures of proto-institutional sponsors but from a different context: SMEs dominated manufacturing sector of a developing country.

The insights from the proto-institutional work of the sponsors (Figure 7.1) briefly reflects on proto-institutional sponsors engaged in altering meanings and belief systems in the field. At the level of individual firms, sponsors are altering meaning and belief system through their supportive role. This role includes, introducing best practices, conducting training workshops, supporting firms in altering their practices, giving matching grants, providing on-the-floor technical services and through consultancies for resource efficiency. At the level of cluster, the sponsors forge a collaborative network with stakeholders to arrange funds from international donors (WWF-Pak and CPI), establish an informal network of alumni factories to institutionalise sustainable practices in the sector (GIZ), strengthen industry-academia linkages (NTU) and build capacity of public

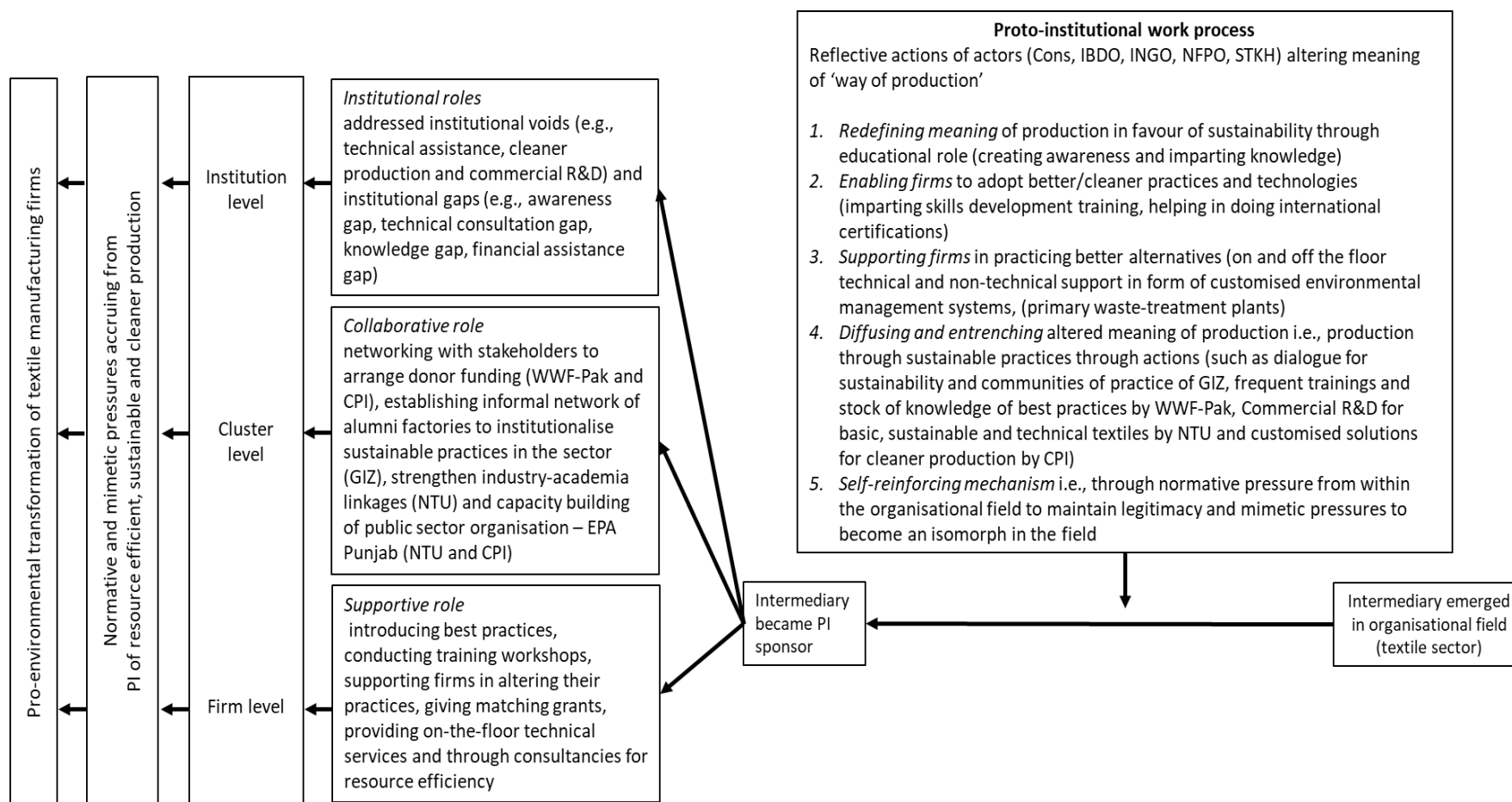
sector organisation such as Environmental Protection Agency, Punjab (NTU CPI, WWF-Pak). At the institutional level, the sponsors address institutional gaps and voids. For instance, the reflexive action of CPI founding members established the CPI for manufacturing industries, the reflective action of textile industrialists established ITT (now NTU) for technical assistance and commercial R&D in the sector and the reflective actions of WWF-Pak is playing roles to reduce environmental footprints of the industrial sector. The reflective actions of bilateral development organisations provide missing support: matching grants to SMEs and capacity building of textile manufacturers.

The above-mentioned roles have created awareness in the sector about the environmental implications of their existing practices and processes and in doing so they have attempted to dissociate these practices and processes from moral foundations by explaining to the sector that it would be socially non-compliant to continue with those environment-degrading practices. In addition to that, these roles have also aimed at introducing better alternatives so that firms in the sector could be informed and helped in becoming socially compliant. As a result of these multiple-level activities, proto-institutional sponsors have worked towards sustainable production (SDG-12) in the sector. The non-regulatory institutional pressures of proto-institutional sponsors is another source of changes in meaning and belief system in the sector. These non-regulatory pressures come from collaborative networks of the sponsors with stakeholders. Consistent with the extant literature, e.g., Ortolano et al. (2014), it is through these networks that proto-institutional sponsors access industry, create awareness, conduct training and development, introduce and diffuse better alternatives, help firms to meet their compliances and mobilise resources necessary for sustainable practices and technologies. The following subsections shed further light on non-regulatory pressures from institutional work process.

**a. Non-regulatory pressure for m awareness and knowledge about better alternatives**

The awareness about environmental implications and the introduction of eco-efficient alternatives, exert normative pressure on the sector. These roles for educating industry

**Figure 7.1 Revised synthesis diagram**



Source: Author's own

are consistent with empirical studies which analyse cleaner production in the tanneries sector of Pakistan (Ortolano et al., 2014, Wahga et al., 2018b). The awareness and knowledge creation activities are creating a pro-environmental business perception in the manufacturers to compete with the status quo perception, which is business for profit only,<sup>31</sup> and the skills training and development empower manufacturers to operationalise the pro-environmental perceptions. These skills development activities resonate with the literature on intermediaries imparting skills to adopt eco-friendly alternatives (Polzin et al., 2016, Thongplew et al., 2017, Eanes et al., 2019). Successful adoption of the alternatives creates a demonstration effect on peer firms. Together, these action source normative and mimetic pressures, which have redefined existing meanings and belief systems in the field. The altered meaning and belief system continue to change the 'legitimacy' parameter in the sector because when market leaders or those who benefit from adopting better alternatives become representative of benefits that firms could reap (e.g., benefits reaped by *Crescent Bahuman and Gohar*) other firms also start to mimic new working practices. By mimicking, firms enhance their legitimacy in the sector. However, the degree to which pro-environmental working practices and processes will remain embedded in the organisational field is dependent upon consistency in the educational role of sponsors for this textile manufacturing sector.

#### **b. Non-regulatory pressure from the communication channel**

The communication channel, a network of business associations and chambers of commerce, between textile manufacturers, public sector organisations and third-sector organisations also plays role in altering meaning and belief systems in the field. At these platforms, firms communicate their problems and expect their issues to be further presented in front of relevant quarters. This gives associations a strategic position, wherefrom they have been helping the stakeholders to communicate their message across the sector. In doing so, this communication channel exerts non-regulatory pressure on firms such as Pakistan Textiles Exporter Association (PTEA) helped

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<sup>31</sup> This is so because these educational and skills-building activities are creating and promoting sustainable production logic to challenge the status quo logic of business for profit only.

Environmental Protection Agency, Punjab (EPA Punjab) by spreading its message of environmental compliance to relevant quarters in the sector. Similar roles are played by standing committees of chambers. However, chambers were less prone to exercise non-institutional pressures as compared to associations because chambers are responsible for a wide range of activities for multiple manufacturing industries in the district. Also, evidence from the field suggests that except for a few proto-institutional sponsors, none of the industry experts (IEs) or textile manufacturers appreciated the chambers' objective actions towards sustainable environmental changes in the sector.

**c. Non-regulatory pressure from technical and non-technical assistance**

The proto-institutional sponsors are extending technical and non-technical support to textile manufacturers, another role that formal institutions are failing to play. Proto-institutional sponsors address the sector's technology gap through research and development activities for introducing and diffusing eco-friendly technologies. For instance, CPI is customising and deploying cleaner production solutions in the sector, e.g., primary treatment plants and resource efficiency projects. NTRC is undertaking industrial research and development such as hemp fibre and other technical and sustainable textiles, predominantly for large-scale manufacturers. WWF-Pak also collaborates with research institutes, international funding organisations and technical consultants for developing eco-friendly solutions. This finding about sponsors' technical support is consistent with the literature documenting the supportive role of intermediaries in the pro-environmental transformation of firms (Kanda et al., 2018, Kivimaa et al., 2019).

Proto-institutional sponsors also offer non-technical support to the sector to help firms adopt better housekeeping and resource efficiency measures. SMEA has provided training and matching grants to formally registered SMEs aspiring to enter the international market but lacking the finances to obtain international certifications. CPI trains firms for adopting environmental management systems (EMS) and better housekeeping measures. CPI and NTRC also offer environmental and energy audit services to help firms evaluate their compliance to prescribe (national and international

standards). Standing out from others, GIZ takes a systematic approach, which is to institutionalise its Dialogue for Sustainability (DfS). DfS empowers partner (textile) firms to identify issues in their practices and processes, design relevant action plans and execute those plans at their workplaces and have technical support from experts who are on the payroll of GIZ. This non-technical support role of sponsors is in line with the relevant extant literature such as (Millar and Russell, 2011, Thongplew et al., 2017). In all, the technical and non-technical support from proto-institutional sponsors is step to further strengthen the alternative perception the proto-institutional sponsors introduced through their educational role. However, the degree to which perception of green alternatives will diffuse depends on the persistence of the support base and the favourable attitude of firms towards the environment.

#### **d. Compensatory arrangements to support pre-existing formal institutions**

All roles discussed above suggest that proto-institutional sponsors have created a parallel 'proto-institution of resource-efficient and cleaner production' that complements the pre-existing formal institutional infrastructure to discount the effects of institutional gap and institutional void. The compensatory role could impact a few firms to help them comply with prescribed (labour and environmental) standards and reduce their environmental footprints, because of multiple factors extensively explored in the extant literature (Subsection 2.3.1). In terms of New Institutional Theory and Stakeholder Theory, this means that proto-institutional work, the alteration of meaning and normative association in the organisational field, did not happen because most of the field is textile SMEs, and a range of factors of economic and non-economic nature impacts the firm course of adopting environmental changes. The same is true for textile SMEs in Pakistan, as noted in the quote of WWF-Pak senior executive in Section 3.3. Yet another reason for the partial diffusion of changes in the field is attributed to limitations in scope, time and financial assistance available to these intermediaries, consistent with the extant literature: limitation on scope (Mignon and Kanda, 2018), skills (Clarke and Ramirez, 2014), source of funding (Wahga et al., 2019) and their degree of embeddedness in the institutional field (Ramirez et al., 2018). Even after 74 years of independence, the textile sector does not have a public sector institution for supporting



pro-environmental changes in the sector, except for the NTU. Firms interviewed in this study did adopt sustainable practices (Section 5.1) as an alternative to their existing practices. This indicates that the meaning and the normative association of these firms transformed in favour of what proto-institutional sponsors in this research promote: the resource efficiency and cleaner production. The source of such change in meaning and belief system lies in non-regulatory institutional pressures of proto-institutional sponsors (that is changing legitimacy parameters in the firms).

The remaining sections are structured as follows: Section 7.2 presents a case analysis of formal institutions while Section 7.3 entails a cross-case analysis of the roles of formal and proto-institution. Section 7.4 discusses theoretical findings from the analyses in this research. Section 7.5 presents contributions of this study. Section 7.6 presents limitations and future research directions. The implications and policy recommendations of this study are presented in Section 7.7. The last, Section 7.8, concludes the chapter and the study.

## **7.2. The analysis of formal institutions' role**

Formal public sector institutions have only partially succeeded in promoting sustainable practices in the sector. The Punjab Environmental Protection (Amendment) Act 2012 (PEPA 2012) empowers EPA Punjab with certain tools and guidelines to reduce industrial pollution. Those, however, are generic, i.e., the same PEQS for leather, textile, sugar and others in the state. Also, those are underdeveloped in the sense that the technology transfer department that is supposed to undertake R&D for industries is dormant, the coordination between federation and province for environmental policy is weak and there is no public policy for cleaner production in the province)<sup>32</sup>. These observations point out institutional gaps (Kolk, 2014) and institutional voids (Mair and Marti, 2009 p. 422) in the institutional landscape. The finding that formal institutions are failing to effectively pursue their objectives is consistent with the extant literature that highlights the partial failure of formal institutions (Klewitz et al., 2012, Ortolano et al., 2014, Adams

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<sup>32</sup> Of EPA Punjab and Ministry of Climate Change (MoCC), the researcher believes that less of the onus of non-compliance is on MoCC as it is an apex body engaged in policymaking and signing international agreements and thus less directly involved in monitoring compliance in firms.

et al., 2016, Hamann et al., 2017). It also supports the finding reported in empirical investigations into Pakistan's leather sector (Ortolano et al., 2014, Wahga et al., 2018b). Furthermore, this finding also supports evidence reported in the grey literature on the state of environmental practices in the textile sector of Pakistan (Malik et al., 2010, Farooq, 2018, Noor et al., 2018, Uddin, 2018). Each of the SMEs and LSE interviewed in this study and most of the industry experts also pointed out weak governance and support infrastructure of formal institutions relating to textile sector in Pakistan. This suggests that the partial effectiveness of formal institutions remains a problem in developed and developing countries, different manufacturing sectors and with studies already done on the same sector using different methodologies. EPA Punjab is less effective in lowering environmental footprints because, as an institution, it finds difficulty in persisting and maintaining its self-activating support (Anderson and Colyvas, 2021).

Self-activating mechanism is "the set of rewards and sanctions that holds practices, technologies and rules in place in an institutional field" (Lawrence et al., 2002, pp. 282-283). For instance, The Punjab Environmental Protection (Amendment) Act 2012 is the self-activating support for EPA Punjab (Table 7.1) because regulations within enable it to exert coercive regulatory pressure on the sector to either comply with PEQS or face penalties, have their NOC revoked or appear for trials in environmental tribunals. The amendment act also empowers EPA Punjab to undertake supportive activities such as awareness creation, technology transfer and others. This helps EPA to diffuse compliance to environmental standards in the organisational field. However, despite its presence in all districts of Punjab, EPA is being ineffective in exercising its coercive power due to observations made in Table 7.1 and the factors that are well documented in the grey literature: resource and capacity constraints, bureaucratic hurdles and others. Furthermore, EPA Punjab is underperforming because it over-relies on coercive regulative pressure to institutionalise sustainable practices in the sector and doing less in terms of complementarities necessary for institutionalising sustainability: financial resources, knowledge base, vision of owner-managers, research and development support, training and consultancy services (Hillary, 2004, Brammer et al., 2012a, Moorthy et al., 2012, Hoogendoorn et al., 2015, de Jesus Pacheco et al., 2017). These

**Table 7.1 Analysis of EPA-Punjab's roles in advancing pro-environmental changes in firms**

<b>Roles under PEPA 2012</b>	<b>EPA's activities in corresponding role</b>	<b>Researcher's observations</b>	<b>Stakeholder's observations</b>	<b>State of the EPA Punjab' role</b>	<b>Implications for compliance in the sector</b>
Regulatory role	Regulate business creation u/s 12, import of hazardous waste u/s 13 and waste handling u/s 14	Firms comply with these legal requirements	Two intermediaries mentioned the use of unfair means to bypass requirements	Active role	EPA Punjab has weak effectiveness
Monitoring role	Compliance with PEQS u/s 11	Less effective	Some update, while others manoeuvre data	Active role	EPA Punjab lacks resource and capacity constraint
	Audit and inspect firms	Inspectors' capacity and strength issue	Not difficult to escape	Passive role	
Accountability role	Issue EPOs u/s 16	Inspectors' capacity and strength issue	GIZ said that EPA Punjab should first educate and then regulate	Active role	EPA Punjab lacks resource and capacity constraint
	Revoke NOC			Passive role	
Educational role	Awareness u/s 6(1q) <i>add environment courses in curriculum u/s 6(1p)</i>	EPA resource stretched and overburdened	WWF-Pak said that a few walks could not bring change	Less frequent	EPA Punjab lags in engaging in support activities
R&D role	<i>Promote R&amp;D for pollution prevention and environment protection u/s 6(1j)</i>	Reduced to laboratory services only	Dormant role and its solutions are reported in (World Bank, 2018)	Passive role	EPA Punjab is failing to provide technical support
Policy works role	Draft and implement environmental policy u/s 6(1b, c) <i>as well as standards u/s 6(1e, f)</i>	Policies and standards are generic and under-developed	Lagging in policy work, multiplicity of roles ascribed to EPA Punjab	Passive role	EPA Punjab has a policy work gap
Collaborative role u/s 6(h)	Collaborate with third sector for pollution reduction and implement standards	Overburdened from diverse roles causing delays in collaborations	Stakeholders initiate collaborations mostly	Passive role	EPA Punjab has a gap in collaboration for pollution reduction

Source: Author's own

complementarities have the potential to help SMEs comply with legal requirements, diffuse them as social obligations and continue providing support for sustainable practices to become, as Scott (2014, p. 40) says, 'taken for granted'. Whereas there is gap between the roles that have been assigned to EPA Punjab and its actual performance (Table 7.1).

In contrast, formal institutions are lagging offering complementarities to the extent they are required by the sector. For instance, NTU is the only public sector organisation that caters to the commercial R&D needs of all clusters in Punjab which is home to most textile firms in Pakistan. There is the need to strengthen the already existing formal institutions, capacitate their human resource and help them further their support roles along with effective regulatory roles. This is the avenue of attention of practitioners and policymakers concerning better environmental governance and sustainable manufacturing in Pakistan. The comparative analysis of the roles of formal and proto-institutions in the following section further enlightens us about insights from the context and implications of those insights for academia, practice and policy work.

### **7.3. Comparative analysis of formal institutions and proto-institution**

Proto-institutions are working together with formal institution to promote sustainable production in the textile sector. Though formal institutions are playing roles, but the extent and effectiveness of their roles, are cause of concern (Section 7.2). In this scenario, proto-institutional sponsors are institutionalising sustainable practices in the textile sector through their normative and mimetic pressures that compensate formal institutions in creating isomorphs of environment friendly textile manufacturers.

#### **7.3.1. Analysis of roles of proto-institutional sponsors**

The nationally and internationally rooted proto-institutional sponsors work together in formal institutions in various roles. Proto-institutional sponsors address the institutional gap in creating awareness about the environmental implications of textile manufacturing, but they differ from each other in the scope and content of awareness creation. One of the national proto-institutional sponsors, the NTU, organises seminars

on 'sustainability' for its students and industry and business associations whereas the other proto-institutional sponsor, CPI; promotes 'resource conservation', 'environmental engineering' and 'cleaner production' in its partner firms (the textile manufacturing firms). The international proto-institutional sponsors' SMEA project creates awareness of the benefits of 'standard certifications' in complying with international requirements; GIZ creates awareness about 'international best practices' through its Communities of Practice (COP) and Change Management Team (CMT) and the INGO – WWF-Pak creates awareness of 'natural resource degradation and environment-degrading impacts of businesses' in the business community and public at large. WWF-Pak differs from others in terms of its active pursuit of public institutions to play their role in nature and environmental conservation. The educational role of sponsors is consistent with empirical studies which analyse cleaner production in the tanneries sector of Pakistan (Ortolano et al., 2014, Wahga et al., 2018b) and across the world.

Proto-institutional sponsors also create a knowledge base of the sector. The international proto-institutional sponsors GIZ and WWF-Pak are proactively engaged in this role compared to nationally-rooted proto-institutional sponsors. GIZ has a relatively broader scope as it teaches case studies of international best practices and maintains an informal network of alumni factories to mutually exchange their experiences and knowledge. It recruits 10 to 15 medium- to large-scale manufacturers that are already in international markets. In contrast, WWF-Pak has better access and content. It commissions research to evaluate existing manufacturing practices in the sector, develops commentaries on legal documents concerning environmental governance and produces best practices manuals. Moreover, these documents are a part of the public domain (further showing WWF-Pak's effort for knowledge creation), free to access at the WWF-Pak website.

The nationally-rooted sponsor, NTU and its NTRC conduct commercial R&D in basic, technical and sustainable textiles for the sector and develop 'easy to understand' literature about various R&D activities so that firms could replicate them in their production facilities. CPI, however, is more into awareness creation and less into

knowledge creation activities. Sponsors also address the skills gap in manufacturers with variation in focus. NTU is organising skills-building workshops for basic textiles for a long time, now covering technical and sustainable textiles as well. The beneficiaries of this training, though, are usually medium-sized and large firms, not SMEs. Similarly, GIZ training on water management and energy efficiency is usually delivered to medium- to large-scale manufacturers actively exporting. CPI helps all sizes of firms in developing the skills necessary for cleaner production and resource management.

SMEA particularly focus on training necessary for obtaining international certifications. WWF-Pak focus on skills helpful to adopt environment friendly practices, resource conservation best practices and training for compliance with international environmental standards. These sponsors also conduct training of public officers for inspections and quality assessment. These skills development activities resonate with the literature on intermediaries imparting skills to adopt eco-friendly alternatives (Polzin et al., 2016, Thongplew et al., 2017, Eanes et al., 2019).

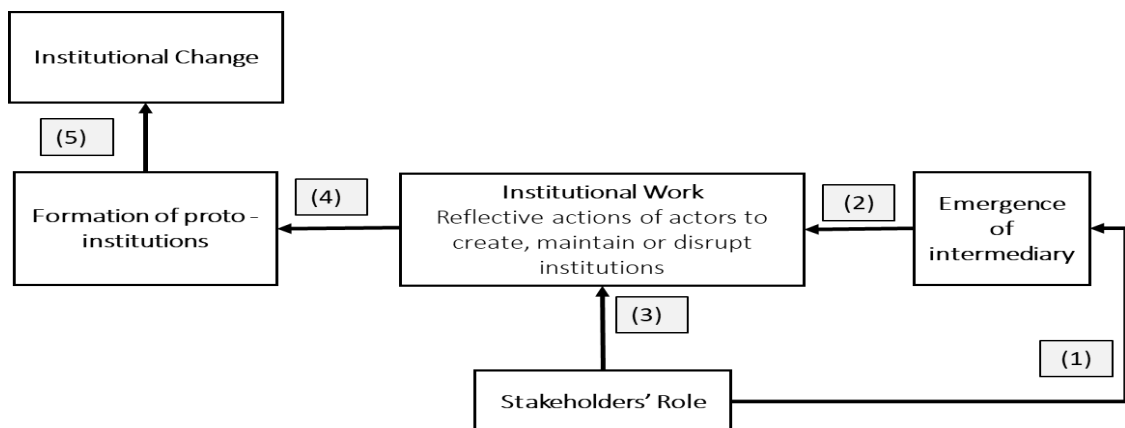
### **7.3.2. Effects of proto-institutional sponsors' roles**

Proto-institutional sponsors play an important and continuing role in altering pre-existing understandings of working practices among textile manufacturers. Their awareness-raising and knowledge exchange activities provide textile manufacturers (e.g., SME 2) in the sector and its stakeholders (e.g., business associations) with an alternative perception of a business (i.e., of eco-friendly production, that incorporates economic, social and environmental implications, to compete with the status quo perception of business as being solely driven by financial considerations). Their training and skill development programs empower firms (e.g., SME 3, LSE 1) in the field to operationalise this alternative perception by practicing textile manufacturing using sustainable environmental practices and processes. This combination of changes in perception and capacity building is redefining the meaning of business in the organisational field (i.e., Pakistan's textile manufacturing sector). It is, however, dependent upon sponsors' consistency in fulfilling their educational role that this new perception will embed in the organisational field.

## 7.4. Theoretical findings

The purpose of this section is to map the theoretical findings of this study onto the original theoretical framework presented in Subsection 4.1.3. The findings have revealed that the combination of both theories did help in exploring and understanding interactions between proto-institutional sponsors and stakeholders of resource-efficient and cleaner production in the sector however insights from the analyses have brought a few alterations in the original theoretical framework. The similarity among both frameworks is that the collaborative networking among stakeholders and with the intermediary organisations remained part of both frameworks (Figure 7.2).

**Figure 7.2 Revised theoretical framework**



Source: Author's own

The analyses detect the role of stakeholders concerning the emergence of intermediary organisations [arrowhead (1)] e.g., stakeholders of textile sector collaborated with each other and established an intermediary, the National Textile University, that evolved over time to become proto-institutional sponsor through its networking with stakeholders of industry, research and development, sustainable manufacturing and others (Sections 5.2 and 5.3). The arrowhead (2 and 4) was also detected showing that intermediary organisations evolved to assume proto-institutional roles as depicted in Figure 7.1 – the revised synthesis diagram. The arrowhead (3) was also detected i.e., the role of stakeholders in the institutional work process. For instance, stakeholders worked with proto-institution sponsors in accessing industry, arranging events, establishing communication between industry, sponsors, and the government (see Chapter 6). The

resultant of this institutional work process [arrowhead (5)] is also detected but only in only one of the proto-institutional sponsors, NTU, which at first emerged as a support institute but later on developed into the first and widely acclaimed public sector textile university in Pakistan (see Section 5.3).

## **7.5. Contributions of this study**

This study has made several theoretical, empirical and methodological contributions to literature on promoting sustainable environmental practices in SMEs of developing countries. Guided by a combination of theoretical underpinnings and for being conducted in midst of a global pandemic, the methodology of this study was adapted to pandemic conditions. This adaptation allowed for exploring the unfolding of processes that were involved in the emergence of proto-institutions and proto-institutional sponsors, as well as the exploration of the roles of formal and informal institutions in a previously under-researched context. The following paragraphs provide a more detailed reflection on these contributions.

### **Theoretical contribution**

The theoretical framework of this study is guided by two theories: New Institutional Theory and Stakeholder Theory (Section 4.1). These theories have been used in recent research around role of institutions in promoting sustainable practices (Subsection 2.3.1) and role of actors in creation of informal proto-institutions (Subsection 2.3.3). In silos, these theories have their values such as Institutional theory helps in understanding isomorphic pressures and Stakeholder theory helps in understanding networking among internal and external actors who impact or are impacted by the actions of actors under consideration. But a combination of these two theories helped in making sense of how, at times, stakeholders' activities generate institutional pressures and how, at times, the network of stakeholders (the actors in an organisational field) lead to path of creating new institutions. It was because of this rationale that two theories were combined in exploring the research problem of this study: why intermediaries assumed proto-institutional roles and how have they performed in promoting pro-environmental changes in manufacturing firms. The Institutional Theory and Stakeholder Theory lenses went into development of theoretical framework of this study. The hybrid theoretical



framework included theoretical concepts: institutional voids and gaps, institutional work process, institutional change process, proto-institutions and proto-institutional sponsors (Section 4.1). These theoretical lenses have helped in addressing multiple gaps identified in extant literature in Chapter 2. Therefore, the theoretical framework of this study has helped in advancing debate about role of formal and informal institutions in promoting sustainability in SMEs.

This is the first detailed examination of the role that proto-institutions can play in promoting more environmentally sustainable manufacturing in a developing economy context. Other recent studies have combed Institutional Theory and the sustainability literature to explore roles of institutions in promoting pro-environmental changes (e.g., (Bansal and Roth, 2000, Berrone et al., 2008, Wahga et al., 2018b). However, these studies focus their discussion on formal institutions and, within that context, they concentrate on isomorphic processes. While some studies have incorporated the ‘reflexive actions’ of actors into the discussion by using institutional work and institutional change lenses (e.g., (Zietsma and McKnight, 2009, Schüßler et al., 2014, Smolka and Heugens, 2020), they are based in developed economies and do not address environmental sustainability. Within institutional work and institutional change studies, even less has been discussed about proto-institutions. As I mentioned in Section 2.3.3, the literature on proto-institutions is scarce and within that literature less references have been made to environmental sustainability in businesses. This study has contributed to the theory by extending the ‘institutional work’ by unfolding the processes that underpin the development of proto-institutions and proto-institutional sponsors in a previously under-researched context of environmental sustainability of SMEs of a developing country (Figure 7.1).

Figure 7.1 shows a non-linear process of proto-institutional work and its impact on textile manufacturing firms for advancing sustainable practices. This process started with reflective actions of actors (e.g., owner-managers, international organisations) in the organisational field: Pakistan’s textile manufacturing sector. In these actions, as the theory of proto-institution suggests, the actors (stakeholders of textile sector, stakeholders of sustainable production, stakeholders of nature conversation)

networked with each other to decide their actions in response to textile related events happening within Pakistan and in international market such as international requirement for resource efficient and cleaner production following new standards. So, the actors networked to overcome institutional voids and gaps in complying with emerging demands from markets such as cleaner production. It was the collaboration of these actors that led to establishment of new organisations that intermediated and developed into proto-institutions.

These organisations assumed roles of proto-institutional sponsors when they engaged in altering prior understanding, 'production without care for environment' to environment friendly businesses through institutional roles, collaborative roles and supportive roles at multiple levels. In their institutional roles, proto-institutional sponsors provided organisations that address voids and gaps so that firms in the sector could leverage support from institutions. While at cluster level, these sponsors collaborated with stakeholders such as business association not only for forging mutual connection among sponsors to take further roles such as WWF-Pak connected with CPI to arrange support for firms in conducting audits or to develop customised solutions for the firms, but the cluster level role also related to exercising of coercive normative pressures or to promote memetic pressures on the sector. At firm level, these sponsors worked closely with firms to apprise them about better alternative and help them build skills to adopt and practice those alternatives. It was while working at these three levels that the sponsors are engaged in meaning and awareness works. This insight from theory presented in Figure 7.1 contributes to the theory of emergence and role of proto-institutions by deepened the prior understanding about proto-institutional work process while unfolding it in the context of Pakistan and analysing this unfolding with Institutional Theory and Stakeholder Theory lenses.

The hybrid theoretical framework i.e. the combining of Institutional Theory and Stakeholder Theory have helped in presenting information about involvement of stakeholders in the creation and development of proto-institutions (Chapter 5), the support that stakeholders provided to proto-institutional sponsors and firms in e.g., awareness creation, creating knowledge base, extending technical assistance or

connecting firms with relevant organisations (Chapter 6) and role of stakeholders in institutionalising sustainable practices in the sector (Figure 7.1) have shown the significance of roles of stakeholders in transmitting coercive isomorphic pressures across the sector. For instance, it was through stakeholders' network that CPI was able to communicate success stories between Faisalabad and Karachi clusters which led to creation of memetic pressure. Similarly, it was through business associations that the sponsors were able to access and communicate with the sector and were able to source normative pressure in the sector. Therefore, stakeholders' roles have remained important in bringing environment friendly changes in the sector.

In addition to above, there are a few valuable observations that can have theoretical implications. A theoretical observation emanates from the differences that have been noted between nationally and internationally based proto-institutional sponsors. The emergence of internationally based proto-institutional sponsors (Chapter 5) and their approach in promoting sustainable practices (Chapter 6) differ from proto-institutional sponsors that are nationally rooted. Internationally rooted sponsors carried out the 'advocacy' form of institutional work e.g., through their awareness and educational roles and, creation of knowledge base for policy and practice (Section 6.2) but their self-activating mechanisms (Table 6.12) is weak. The nationally rooted sponsors carried out 'advocacy' and 'meaning' works and their self-activating mechanism is relatively stronger. Furthermore, another theoretical insight provided from this study is, internationally rooted sponsors were not seen moving towards institutional change despite having stronger support systems. However, one of the nationally rooted sponsored has continued to progress into a formal public sector organisation therefore represents an institutional change.

### **Empirical contribution**

This study contributes to the empirical literature concerning three different debates in literature: lagging of formal institutions in ensuring environmental compliance in manufacturing firms, the creation of informal proto-institutions who are candidates of wider institutionalisation to become institution and the pro-environmental changes to practices and processes of SMEs following the role of both institutions. In doing so

(replace with synonym), this study has explored a context that has been relatively under researched in the domain of empirical research on sustainability in SMEs and empirical exploration of institutional work and change processes. This has been reported in Chapter 2 that most of the studies belonging to these domains are based in developed countries and are more focused on large size businesses therefore pointing gap in empirical literature relating to role of institutions in greening of small and medium sized businesses. The findings from this study addressed these gaps.

The context researched in this study (Chapter 3) differs from that covered in extant literature. The extant research on proto-institutions (Lawrence et al., 2002, Gómez and Atun, 2013, Hensel, 2018, Kleinaltenkamp et al., 2018) is mostly based in services sector or developed world. Similarly, the context of this study features less developed support arrangements and less supportive attitude of government where the contexts researched in extent literature are have better institutional arrangements, support systems or attitude of government towards strengthen of compliance culture in manufacturers (Hoffman, 1999, Revell and Rutherford, 2003, Revell and Blackburn, 2007, Klewitz et al., 2012, Kanda et al., 2018, Kleinaltenkamp et al., 2018). These factors are found to be of significance in contextual settings of this study.

Pakistan's textile manufacturing sector is in existence since inception of the country and it is a prime exporting sector that contributes as much as 60 percent to national exports but the formal institutions relevant to this sector have remained weak or absent (Sections 3.4 and 5.1) and, as a result, the culture of environment friendly businesses in the sector has progressed slowly. Even, when there were situations in which industry faced increasing pressure for environment friendly production for international markets, a substantial support from public institutions to the sector in complying with international environmental and labour standards and product requirements remained minimal. This left both gaps and voids in the institutional landscape of the sector. By researching this context: SMEs dominated textile sector with little support from public sector and challenges in relation to institutions, this study has contributed to empirical literature and has helped in making sense of how institutions in developed and

developing countries are promoting sustainable practice a sector which is known for its large quantum of pollution and is not dying any sooner, the textile sector.

This finding lends support to the literature that examines the implications of the absence, failure, or relative ineffectiveness of formal institutions e.g., (Klewitz et al., 2012, Ortolano et al., 2014, Adams et al., 2016, Amaeshi et al., 2016, Hamann et al., 2017, Al-Abdin et al., 2018) but as previously mentioned, the support now comes from a context in which formal institutions have been established to promote pro-environmental changes in SMEs of a developing country but those institutions are being less effective or missing. Moreover, the contribution comes from the fact that evidence have been reported from a sector that is dominated by SMEs and as literature suggests, SMEs are not a miniature of large firms (Tilley, 2000) so their behaviour and kind of support they need differ from large size businesses.

By generating detailed information about SMEs typology and reflecting on the lagging of formal institutions (Chapter 3), this study has reflected on varieties of attitudes of SMEs of a developing country which not only contributes to the ongoing global discussion on greening of SMEs but also presents an insight to policy makers responsible for greening of business in developing countries. The findings pertaining to the emergence of intermediaries and their assumption of roles of proto-institutional sponsors (Chapter 5) has added to the debate of proto-institutional work. The finding suggests that proto-institutional sponsors in the context of greening SMEs emerged to address institutional voids and gaps by collaborating with actors in the organisational field to create new organisations or reorient existing organisations to intermediate. The thick details of context show that the networking was some time initiated by industrialists whereas in other times it was government or intermediaries who started the process of network to respond to developments impacting the working of textile sector. Consistent with Kleinaltenkamp et al. (2018), an external shock that presented in form of GSP plus status for Pakistan in 2014 caused tension in the institutional field and initiated collaboration with the governments of Pakistan and Germany. Resultantly, a dialogue for sustainability started in the textile sector of Pakistan which continues to institutionalise sustainability in the sector. This finding corroborates with the extent

literature e.g., (Lawrence et al., 2002, Adler and Gersch, 2015) which talks about institutional work in services sector while researching large scale organisations. But it adds to literature by presenting evidence about sustainability in SMEs of a developing country whereas, these studies belong to sectors other than sustainability in businesses and are situated in developed world context.

The thick description of events that led to development of proto-institutional sponsors in this qualitative study (Section 5.2) also add to the debate on institutional work process. The extant literature e.g., Lawrence et al. (2002) in their analysis of child nutrition in Ghaza, Zietsma and McKnight (2009) who analysed forest industry in British Columbia, Gómez and Atun (2013) who have explored role multiple donor agencies in global health system, Kleinaltenkamp et al. (2018) in their analysis of three services eco-systems: health, food and mobility in Italy have presented that networking and collaboration among actors in the field were central to the institutional work process. But these studies have explored institutional work process in different domains whereas the description provided in this study comes from greening of SMEs therefore this finding extends the extent literature when it states that networking and collaborations activities were found driving force behind intermediaries in their assuming of proto-institutional roles. Moreover, this finding has also extend the debate because one of the leading researchers on institutional work, Lawrence et al. (2013) says that institutional work studies have remained focused on large organisations whereas this study has explored pro-environmental changes in SMEs of a developing country.

The findings about comparative roles of nationally and internationally rooted proto-institutional sponsor (Sections 6.2) and insights into roles of both formal and informal institutions in promoting sustainable environmental practices in SMEs (Section 7.3) have addressed gap in literature around roles of institutions in promoting sustainability in businesses. These findings present fresh evidence about proto-institutional work in an under-researched context for industry, support organisations and policy makers who can relate to information about coexistence of formal and informal institutions to achieve their goals. This hybrid form of institutional arrangement has compensated for missing coercive institutional pressure that are necessary to promote and diffuse better

alternatives in the sector. This finding further strengthens the studies by e.g., (Hoffman, 1999, Delmas and Toffel, 2004, Berrone et al., 2008, Wahga et al., 2018a). Further to this, it is important to note that stakeholders have been helpful in letting proto-institutional sponsors continue to play their role. These roles include promoting education, creating awareness, developing skills and capacity, consultation services in technical and non-technical aspects, support for commercial R&D and financial assistance to firms in the form of matching grants. This finding could be further researched in contexts alike to Pakistan's textile sector.

The insights into differences between the roles of formal and informal institutions in promoting sustainable practices (Chapter 7.3) adds to our understanding by suggesting that collaboration between formal and informal institutions could be helpful in overcoming institutional problem so economies can pursue their goals e.g., sustainable production by initiating the process of institutional work or by supporting it.

### **Methodological contribution**

This study is unique in the sense that it has been conducted in times when the unexpected COVID 19 pandemic erupted, and research methodology was adapted in response of developing situation and to overcome challenges arising from the pandemic. This study makes contribution to methodology by showcasing adaptations and strategies employed in response to the unprecedented challenges posed by the COVID-19 pandemic. The shift to remote interviewing as a primary data collection method, despite the difficulties encountered, highlights the resilience and adaptability of the research process. The engagement with gatekeepers and utilization of the researcher's alumni network demonstrates innovative approaches to overcome access barriers during the pandemic. Additionally, the redefined scope focusing on Punjab and the inclusion of secondary data from all clusters in Pakistan ensure a comprehensive representation of the textile sector. By including both SMEs and large-sized businesses, this study provides insights into the roles of intermediaries and enables triangulation of interviews. The information provided in Section 4.5 could help researcher in developing countries like Pakistan, where gaining and maintain access are prime challenges in collecting data, can refer to this study in designing their methodology.

## **7.6. Limitations and future research directions**

This qualitative inquiry has the following limitations, stemming from limited time and financial resources available for this study and the COVID-19 pandemic. First, the scope of this study is limited to pro-environmental changes to working practices in manufacturing firms' and it aims to explore public institutions and intermediary organisations that have assumed proto-institutional roles. This study does not cover PSOs that also share the mandate of improving productivity, developing skills, and providing better environmental governance, such as the National Productivity Organization (NPO). During the fieldwork, these organisations were approached. However, the pandemic made it challenging to obtain their perspective on the context discussed here. Nevertheless, I utilised secondary data sources to capture the views of such organisations. The study does not cover Pakistan's second-largest textile manufacturing province (Sindh), which was also due to the country-wide lockdown. However, this issue was addressed by exploring secondary data and recording the views of intermediaries (e.g., CPI and WWF-Pak) who work across the country.

Second, this study is not a pure qualitative inquiry in the sense that, while the research methodology is underpinned by moderate assumptions grounded analysis, the researcher conducted a systematic review of the literature before proceeding to full-scale fieldwork, which informed the interview questions, observational work and collection of documentary evidence. In addition, the data collection process stopped after theoretical saturation was reached, the point at which more data either did not produce any new insight or produced only a few insights (Smolka and Heugens, 2020).

Third, some aspects of the fieldwork were adversely affected by the COVID-19 pandemic, including time constraints, resource limitations and a lack of access to interviewees and other sources of evidence during an extended countrywide lockdown. In order to adapt to conditions during the COVID-19 pandemic, the researcher adopted remote interviewing (e.g., using Skype for Business, Microsoft Teams, Zoom and telephonic conversations) replaced face-to-face interviews that rendered the data collection process quite challenging. Accessing participants remotely added to the difficulties in maintaining access, in part due to the trust-based work culture in the



contextual settings of this study. The interviewer found it necessary to 'meet and greet' the respondents two or three times to access an interviewee in a real sense. To this end, the researcher used his contacts in public institutions and his alumni network to gain and maintain access to the respondents while complying with research ethics protocols (e.g. not causing distress and interviewing only after having obtained informed consent). In order to address these issues, the researcher also undertook a more extensive search or secondary sources to explore further details about points arising during the discussion and gather multiple points of view.

Fourth, interviews were conducted in English and Urdu languages that were then translated and transcribed into the English language for data analysis. There were some challenges in finding appropriate words during translation because of differences in the vocabularies of the Urdu and English languages. To this end, the researcher either kept the Urdu words as they were and noted the intended meanings within parentheses to preserve the originality of the participant's words. The researcher also sought help in some of the translations from his colleagues at GC University Lahore.

Fifth, the initially proposed data analysis methods were to use grounded analysis of primary data and content analysis and historical analysis for the secondary sources of data. The primary data were analysed as planned but secondary data were analysed through only one method: content analysis because the researcher could not access the archives of many institutions due to lockdown situations and the researcher's health problems. Sixth, findings from this study are context specific, hence difficult to generalise to different contexts. Also, qualitative studies feature theoretical generalisability rather than statistical generalisability; therefore, their findings may not be generalisable in contexts not similar to the one explored in this study: the SME-dominated textile sector in Pakistan.

There are several ways in which researchers could build on these findings, and on the methodological approach adopted in this study. For example, future research could consider a longitudinal study to trace the roots of collaborations among actors while they engage in the institutional work process. Researchers could also consider

developing an institutional work process model in this contextual setting, or to undertake a comparative study in other developing countries. Since the institutional work provides an opportunity to explore ‘mutual dependencies,’ leading to failure or at least difficulty in accomplishing institutional work (van Bochove & Oldenhof, 2018, p. 113), therefore yet another avenue to explore qualitatively would be whether proto-institution undergo the institutional change process and mature into formal institutions, and what was the process through which such transition take place.

### **7.7. Implications and recommendations from this study**

This study has made several implications and recommendations for the stakeholders of sustainable production in manufacturing sectors in Pakistan and other developing economies that face similar constraints and challenges. The recommendations aim to improve environmental compliance of the manufacturing sector in contexts where structural issues such as institutional voids and gaps have adversely impacted the effectiveness of formal institutions to achieve their objectives of environmental governance. Extant literature suggests that formal institutions’ lagging in performing roles that have been ascribed to them, is common in developing world so the policy recommendations address global context in general and the context of Pakistan in particular. It is hoped that recommendations of this study will be helpful for textile manufacturers in becoming environment friendly, for policy makers seeking to overcome institutional issues in promoting sustainable production and for researchers, who can refer to this empirical investigation into proto-institutional work in a developing country context and build on it in future research. Overall, these recommendations will help Pakistan in advancing its efforts towards achieving its Sustainable Development Goals, and specifically SDG 12: Sustainable Consumption and Production. The following subsections present implications and recommendations for the stakeholders of sustainable production: textile manufacturers, support organisations, policy makers and academia.

#### **7.7.1. Recommendations for promoting sustainable practices in textile sector**

The typology of textile manufacturers presented in this study (Chapter 3) and extracts from interviews with SMEs (Chapter 5 and 6) present a rich source of information

presenting closer look into practises and the processes of environmentally distant, environmentally progressing and environmentally compliant firms, can help textile manufacturers to realign with tried and tested, better practices, in the sector to improve their compliance outlook and become competitive. Firms can do so by adopting the following recommendations of this study,

- A. SMEs can liaise with proto-institutional sponsors, the support organisations such as WWF-Pak, CPI and NTU, to seek their help in overcoming technical and non-technical hurdles in improving their outlook. They can learn about cleaner alternative to existing inputs, processes and technologies by attending the awareness creation seminars and workshops that are arranged by proto-institutional sponsors. Similarly, they can reduce their environmental footprints by using better alternative to input resources such as those practiced in environmentally progressive and complaint SMEs. For instance, cleaner and green energy inputs instead of mix of fossil fuels. This study recommend that SMEs should liaise with CPI and NTU for the development of customised solutions to prevent and/or abate their pollution (e.g., primary waste treatment plants, pollution scrubbers), efficient use of input resources (e.g., customised system of housekeeping, metering flow of input resources) and auditing services. The manufacturers can also benefit from NTRC model for adopting sustainability in SMEs. They can also learn from a variety of best practices manuals, prepared by WWF-Pak, to adopt best practices on their own. Such activities will help manufactures overcome their fear of environmental authorities; become part of international supply chain in which members of the chain prefer to work with environmentally compliant firms; and grow their business in a sustainable manner while continuing to achieve their environmental, social and economic objectives.
- B. Policy makers who aim to promote sustainable production in Pakistan can promote combined effluent treatment plants. The provincial environmental protection authorities should lobby for installing such combined technology at cluster or in industrial estates/zones. Similarly, policy makers should promote the idea of scientific parks for reducing compliance issues. At present, the wet processing mills

are slipping behind in treating their waste discharge due to the excessive cost of installing and operating wastewater treatment plants in individual mills. The use of combined treatment plants, a common feature of a scientific park, can help manufacturers in overcoming the high-cost challenge. In doing so, both parties will be in a 'win-win' situation. Firms using the combined treatment plants will have lower costs to pay towards effluent treatment. And the administration of the park will benefit by having the cost of its construction and operation shared by its users. Similarly, other pollution-treatment technologies in scientific parks can help firms achieve compliance. Both parties can work out a mutual agreement to decide flow metering and service costs. This will change manufacturers' attitudes regarding their environmental footprints. It will lead to better compliance with national and international standards and improved environmental outlook of the sector.

- C. The national textile policy should consider information about drivers and barriers and the typology of SMEs presented in Chapter 3. This information can prove useful in understanding which factors are critical to promote the adoption of sustainable practices by textile manufacturers and, to create an effective support system for the sector. A blend of incentives (for those who comply) and penalties (for those who fall short of compliance) would help EPAs to effectively pursue their objectives of environment-resilient production. This will result in a more inclusive, stronger, and rewarding policy.

Researcher believes that firms cannot overcome their obstacles in becoming environment friendly in isolation rather they need support from institutions. The next subsection presents list of recommendations that aim at promoting support for firms from formal institutions as well as the way in which formal institutions can improve their overall effectiveness.

#### **7.7.2. Recommendations for strengthening formal institutions' governance**

The recommendations in this section are addressed for policy makers aiming to improve governance of formal institutions. These have been made at two levels, first for the context of Pakistan and second for the global context.

1. It is well documented in extent literature and empirical data of this study that the formal institutions for environmental governance have been less effective in protecting the natural environment from industrial pollution. Though these institutions are established or devolved for decades now, they still lag in responding to environmental governance developments at national and international levels. For instance, the Ministry of Climate Change has been tasked with developing the country's climate change policy, which it has done. However, it is ineffective because one of the major components of this policy (the climate change task force that has responsibility for implementing climate change) is still to become effective. Punjab's climate change policy is yet to be designed. Similarly, the national and provincial institutions responsible for environmental governance (Ministry of Climate Change and Provincial Environmental Protection Authorities) are failing to achieve their mandate - to reduce environmental pollution and promote sustainable development. These institutions are cognisant of their issues such as EPA Punjab, which knows Punjab Environmental Quality Standards (PEQS) are outdated, has remained entangled in multiple challenges so less has been done to revise PEQS in over twenty years. These observations show that bringing changes to policies or institutions is a large and cumbersome process, especially in the context of developing countries.

Keeping above-mentioned issues in view, this study recommends that policy makers should consider collaboration between formal and proto-institutional sponsors. The proto-institutional sponsors have created a proto-institution of resource efficient and cleaner production in Pakistan's textile industry which could help the industry meet national and international compliance standards. This collaboration could take two forms.

First, government supports the on-going proto-institutional work (see Table 7.1) so that it continues and eventually leads to institutional change i.e., creation of an institution of resource efficient and cleaner production. For this, the government can,

- support in altering the existing meaning of production in favour of sustainability,
- help in imparting training and skills to firms necessary for adopting the redefining meaning of production,
- exert its regulatory pressures to promote practicing of newly imparted skills so that they become 'taken for granted' in organisational field,
- engage proto-institutional sponsors and their multipliers in various activities aimed at spreading and entrenching the redefined meaning.

This will strengthen institutions' self-reinforcement and further diffuse and entrench cleaner and more resource-efficient manufacturing.

Second, government formalises the existing institutional arrangement in which proto-institutional sponsors work parallel with formal institutions to improve the environmental outlook of Pakistan's textile sector. In so doing, the government can leverage the roles of proto-institutional sponsors (such as education, capacity building, technical and non-technical assistance in promoting resource efficiency and cleaner production). Formal institutions can also adopt roles similar to those of proto-institutional sponsors to address institutional gaps and voids. For instance, collaboration with private or civil society actors could help formal institutions strengthen their educational role. As a representative of proto-institutional sponsors said, "the civil society community should raise consumer awareness so that local industry will be pressured into adopting green manufacturing practices just as international clients do". This way, formal institutions can promote awareness in firms about their social responsibility, informing them about better alternatives (such as cleaner production and organic inputs) and global initiatives (such as the better cotton initiative, carbon footprints and race to net zero). Similarly, formal institutions can capitalise on proto-institutions to strengthen their network with stakeholders and use that network to achieve their goals, e.g., pollution control, pollution prevention and sustainable development. Similar could be done for other roles of proto-institutional sponsors and exercise institutional pressures. In the broader scheme of things, this formalisation of institutional

arrangements will not only reduce the existing burden on public institutions. It would also be a market-driven approach to improving environmental compliance in the country.

2. It has been established in findings and discussions of this thesis that existing public sector measures for reducing environmental implications of industries and initiating sustainable production are less prevalent. It is because these measures rely on e.g., Punjab Environmental Quality Standards (PEQS) and the Punjab Environmental Protection Act (Amended) 2012 are generic and do not correspond to their contexts. Researcher's reflections from his discussions with participants and review of context-specific literature e.g., (Sattar, 2022a) also suggest that the criteria for monitoring and evaluation in the PEQS do not effectively cover one of the most vibrant economic sectors in Pakistan: textile manufacturing. As one of the respondents shared, 'the 'P' of Pakistan Environmental Protection Act was replaced by 'P' for Punjab Environmental Protection Act along with some necessary changes.... Otherwise, the content of act, by and large, has remained the same'. Therefore, this study recommends that the following changes to be made to EPA Punjab for improving its environmental governance,

- 2(A) EPA Punjab has been empowered to draft its own policies, standards and systems under the Punjab Environmental Protection (Amendment) Act 2012 but its existing tools and systems are weak. It is recommended that EPA should improve itself by bringing more transparency in its systems of issuing no-objection certificates, monitoring and auditing of compliance reports, actively engaging in R&D activities and bridge gap between the prescribed environmental standards and international requirements. At present, EPA Punjab relies more on coercive regulatory pressure whereas it rarely involves in support activities. As one of the respondents said that EPA Punjab should 'first capacitate and then regulate'. It is therefore recommended that along with effective use of coercive power, EPA Punjab should actively play its role educating industry and developing economical solutions for the industry.

2(B) The Punjab Environmental Quality Standards (PEQS) should be reviewed in light of information presented in Chapters 3, 5 and 6 of this study. Policy makers should lay emphasis on bringing provincial environmental protection agencies to live. For instance, EPA Punjab has the mandate to conduct research and development to lower industrial pollution, develop new environmentally friendly solutions and distribute cheaper alternatives of pollution reduction (prevention and controlling solution) to industries but less is being done in this regard. It is because, EPA not only lacks staff but also lacks capabilities to effectively monitor compliance in industries. Policy makers should focus on building EPA Punjab's capacity to develop and transfer technology to the industry including small and medium-sized businesses. It is necessary, that government capacitate EPA staff so that environmental inspectors become better placed to effectively govern environmental compliance in manufacturing sectors. Moreover, policy makers should consider hiring more environmental inspectors and technical staff to reduce the use of unfair means in bypassing environmental governance and further strengthen the agencies to perform their duties effectively.

2(C) There is need to muster up political support to revise the Punjab Environmental Protection Act 2012 so that it represents ground realities of issues relating to environmental governance in the province. The provincial constituent assembly or its standing committee should work for a climate change bill so that a clear-cut policy for climate change is designed for a province which is house of considerable number of industries in the country. This will help the government achieve SDG 12.

2(D) The recent World Bank project for Green Development in Punjab has aimed to revamp Punjab's environmental governance. It aims to streamline Punjab's environmental protection institution and review environmental standards, but there is much more to be done on the policy front. Currently, a policy advises firms to plant trees in their manufacturing facilities, but this is impractical, especially for SMEs with limited resources and space. Therefore, the need for



pragmatic policies persists. It is recommended that active collaboration between relevant institutions and stakeholders in environment friendly manufacturing practices be forged. This will enable them to make representative policies for sustainable production in Pakistan.

3. In global context, there is increasing focus on decoupling economic growth from environmental degradation and economies have established formal institutions to bring environmental implications of their production sectors under check. However, these institutions are falling behind, especially in the developing countries. In such a scenario, this study recommends that policy makers in economies like Pakistan should overcome one of the prime challenges, the problem of institutional voids and/or gaps to improve environmental outlook of their manufacturing sector. They can do so by initiating collaboration among relevant stakeholders. This collaboration involves actors (e.g., individuals, firms, support organizations) who come together to develop a network of stakeholder of business and sustainable development. This network aims to create an informal institution, the proto-institution that can physically represent as a single or a set of multiple organisations. This proto-institution has potential to work together with existing formal institutions as a compensatory arrangement and address institutional gaps and/or voids in advancing environment friendly economic activity through isomorphic pressures. And, if this proto-institution continues to develop then it can become a formal institution.

### **7.7.3. Recommendations for proto-institutional work process**

This study presents a relatively under researched context where in it has explored the unfolding of proto-institutional work process in promoting pro-environmental transformation of SMEs in an economically vibrant and internationally connected manufacturing sector of Pakistan. The analyses have shown that institutional work process in this context has been more about changing the preconceived meaning of production and dis-association of preconceived meaning from its legitimate base. This has been through coercive normative and mimetic isomorphic pressures from activities of proto-institutional sponsors who networked and collaborated for variety of activities

at multiple levels. This work has led to creation of proto-institutions which are focused at promoting resource efficiency, sustainability and cleaner production. There has been less direct evidence of other ways of institutional work as noted in Lawrence and Suddaby (2006). Moreover, this study did not find enough details and evidence for tracing the institutional change process. It is therefore recommended that future research could transfer findings of this study into a similar context e.g., a vibrant manufacturing sector in a developing country and explore the kind of institutional work process has unfolded in that context. Moreover, future studies can look for evidence about institutional change process in context of developing countries.

## **7.8. Conclusion**

The primary aim of this study was to critically analyse how formal and proto-institutions promote sustainable environmental practices in a developing country context, particularly for small and medium-sized firms, whose resources, skill profiles, and social responsibility are not the same as those of large corporations.

This study combined Stakeholder Theory and New Institutional Theory to achieve the study's objective. This investigation has drawn upon several literature strands, including eco-innovations, pro-environmental transformations of SMEs, institutional and non-institutional roles of intermediaries, institutional work process, institutional change process, and proto-institutions. According to the analyses, developing countries have gaps, voids, and underperforming formal institutions. Informal institutions, while working in parallel or compensatory arrangements, could help resolve formal institutions' problems. This study helped clarify the institutional work processes, which were not evident in the extensive literature, mainly with reference to developing countries. There is substantial literature that describes collaborative networking phenomenon in terms of creation of new institution; however, before this study, the language of intermediation (i.e., how intermediaries communicate with stakeholders and exert coercive isomorphic pressures on multiple levels) was challenging to identify. The hybrid theoretical framework helped in identifying how stakeholders played role in intermediaries assuming of proto-institutional sponsor roles, connecting proto-

institutional sponsors with industry and helping them in exercising coercive institutional pressures on firms. Now that has been presented in findings and discussion chapters of this study. Despite the inability to generalise those findings to other contexts, they still offer helpful information by looking at 'intermediation' in SME-dominated developing countries.

SMEs have been emphasised many times in this study because these firms constitute almost all the industries in developing countries. These firms are relatively challenging to encourage to transform (environmental transformations in this case). The findings from this study also help resolve an ambiguity that arose while conducting the literature review, i.e., empirical studies (although few) documenting coercive regulatory pressures have created ambiguity during the literature review process. It also presented a potential opportunity for the context under-investigated because, instead of luring policymakers through lengthy processes of institution creation, they could foster and rely upon intermediaries to deal with grand challenges: climate change in this case. There was, however, no evidence of regulatory pressure from intermediary organisations in this study. It became evident that intermediaries are potential channels for supporting formal institutional arrangements. Suppose political support is provided to diffuse and entrench a proto-institution of resource-efficient and cleaner production. In that case, it will be easier for Pakistan's government and national and international stakeholders to address the grand challenge of climate change, environment friendly production and the circular economy to address the grand challenge.

Policy and practice recommendations have also been made to empower environmental governance institutions and enable the sector to adopt much-needed sustainable environmental practices. In addition, the sector is encouraged to prepare for even stronger requirements of social and sustainable production standards on the international and national levels. It is possible to improve environmental governance, resource efficiency, and cleaner production commitments in the sector further by strengthening formal institutional arrangements, strong and vibrant links between industry and academia, strengthening collaborative networking among stakeholders, and supporting proto-institution to graduate into formal institutions.

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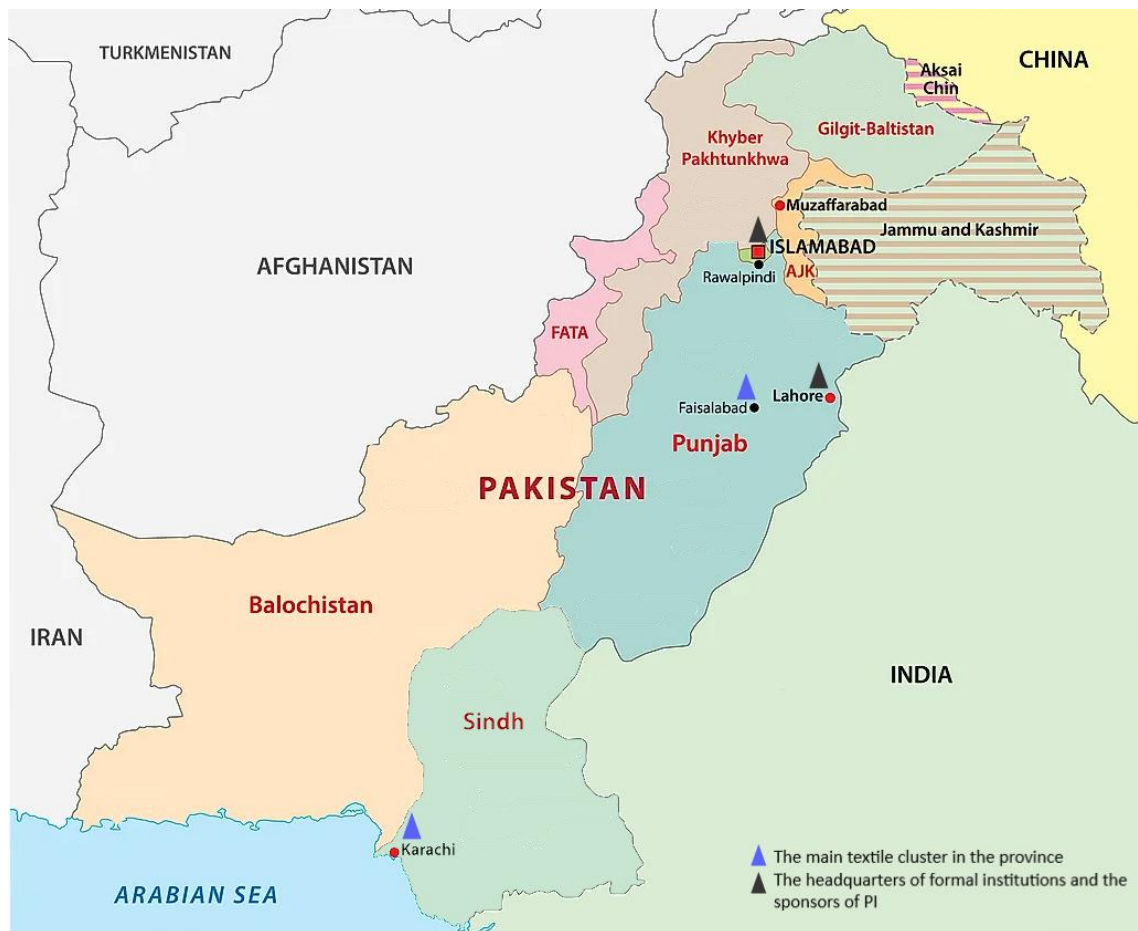
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## Appendices

### Appendix A Geographical location of textile clusters and intermediaries



Source: Reproduced from (WorldAtlas, 2022)



## Appendix B Composition of textile sector in Pakistan

Province wise approximation of registered mills															
	Punjab			Sindh			KPK			Baluchistan			AJK		
	W	C	T	W	C	T	W	C	T	W	C	T	W	C	T
Composite Mills	21	2	23	15	2	17	0	0	0	0	0	0	0	0	0
Spinning Mills	276	56	332	67	43	110	16	3	19	8	2	10	5	1	6
Total (Province)	297	58	355	82	45	127	16	3	19	8	2	10	5	1	6
Total Mills (Pakistan)	408 (W) + 109 (C) = 517 (T)														
Source: Textile Commissioner Organisation															
Business association wise approximation of registered member mills															
	APTMA			APTPMA			PTEA								
Faisalabad	-			116			-								
Karachi	-			163			-								
Lahore/ Gujranwala	-			85			-								
Total Registered	227			376			204								
Source: APTMA, APTPMA, PTEA websites															
Textile production capacity of registered vs. unregistered firms															
	Listed Capacity						Non-listed Capacity								
Spindles	13049						951280								
Rotors	198801						42984								
Looms	9084						403500								
Source: Textile Commissioner Organisation															
Composites are integrated mills which undertake whole manufacturing process under one roof: spinning, weaving and processing. Whereas, spinning mills only spun yarn or fibre.															
W = Working Mills. C = Closed Mills. T = Total Mills															

Source: Author's compilation

## Appendix C Ethics approval of this study

**Raees.Aslam**

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**From:** Research-REC-Review  
**Sent:** 31 January 2020 10:23  
**To:** Raees.Aslam; Research-REC-Review  
**Cc:** Richard.Blundel; Aqueel.Wahga  
**Subject:** HREC/3445/Aslam: HREC Favourable Opinion

Dear Raees

This message confirms that the research protocol for the following research project, as submitted for ethics review, has been given a favourable opinion on behalf of The Open University Human Research Ethics Committee

**Project title: Role of formal and informal institutions in advancing sustainable practices in Small and Medium Enterprises of Developing Countries.**

**HREC approval date: 30/01/2020**

As part of your favourable opinion, it is essential that you are aware of and comply with the following:

1. You are responsible for notifying the HREC immediately of any information received by you, or of which you become aware which would cast doubt on, or alter, information in your original application, in order to ensure your continued safety and the good conduct of the research.
2. It is essential that you contact the HREC with any proposed amendments to your research, for example - a change in location or participants. HREC agreement needs to be in place before any changes are implemented, except only in cases of emergency when the welfare of the participant or researcher is or may be affected.
3. Your HREC reference number has to be included in any publicity or correspondence related to your research, e.g. when seeking participants or advertising your research, so it is clear that it has been agreed by the HREC and adheres to OU ethics review processes.
4. Researchers should have discussed any project-related risks with their Line Manager and/or Supervisor, to ensure that all the relevant checks have been made and permissions are in place, prior to a project commencing, for example compliance with IT security and Data protection regulations.
5. Researchers need to have read and adhere to relevant OU policies and guidance, in particular the Ethics Principles for Research with Human Participants and the Code of Practice for Research - <http://www.open.ac.uk/research/governance/policies>
6. The Open University's research ethics review procedures are fully compliant with the majority of research council, professional organisations and grant awarding bodies research ethics guidelines. Where required, this message is evidence of OU HREC support and can be included in an external research ethics review application. The HREC should be sent a copy of any external applications, and their outcome, so we have a full ethics review record.
7. At the end of your project you are required to assess your research for ethics related issues and/or any major changes. Where these have occurred you will need to provide the Committee with a HREC final report to reflect how these were dealt with using the template on the research ethics website - <http://www.open.ac.uk/research/governance/ethics/human/review-process/final-report> (HREC Final Report form)

*Sent on behalf of the Human Research Ethics Committee*

## Appendix D Invitation to participate in research study



The Open University  
Business School, UK  
Walton Hall  
Milton Keynes  
United Kingdom  
MK7 6AA

Tel: +44 (0) 1908 655 888  
Fax: +44 (0) 1908 655 898  
[www.open.ac.uk/oubs](http://www.open.ac.uk/oubs)

Dear \_\_\_\_\_

The purpose of this letter is to invite you to participate in this research study. The study aims to investigate the role of formal and informal institutions in advancing environmental practices in small and medium-sized enterprises (SMEs) of developing countries. Formal institutions include public sector organizations such as ministries, authorities, and support organizations. Whereas an informal institution may be a private or third-party organisation such as an NGO, a Chamber of Commerce, an international organization, or a support body that performs functions similar to those of public institutions (e.g., supporting eco-innovation, enabling green production practices, or protecting the environment).

It is my intention to meet with intermediaries in Pakistan's textile industry to understand why they have taken on roles that would normally be the responsibility of public sector organisations. Moreover, I am interested in understanding how SMEs view informal institutions as sources of support. To this end, I will conduct 40 to 60 minutes telephonic and/or face-to-face meetings, which will be recorded and translated into English only for the purpose of completing my PhD dissertation. All data will be stored on password-protected devices and codes will be used instead of names to maintain confidentiality and anonymity. In the dissertation analysis chapter, some of the extracts from the discussion will be used. I will present my analysis of our discussion in my dissertation, which you are welcome to read, as well as for academic publications, seminars, and conferences, but not for commercial purposes.

Please be assured that your participation in this study is voluntary. The discussion may be stopped at any time, the recording may be stopped, a question may be declined, or you may opt out. Participants are at no risk from participating in this project. A review and approval of this study by the Open University Human Research Ethics Committee, reference HREC/3445/Aslam, indicates there are no physical or psychological risks associated with this study.

Your participation in this project is highly appreciated.

Best Regards,

Raees Aslam  
PhD Scholar at Department of Public Leadership and Social Enterprise  
The Open University UK  
Contact Number UK: +44 (0) 7388496754 /Contact Number Pakistan: +92 (0) 3338498903  
Email: [raees.aslam@open.ac.uk](mailto:raees.aslam@open.ac.uk)

Note: If there is anything more that you like to know about this project, please talk to me and/or my supervisors: Prof Dr Richard Blundel ([richard.blundel@open.ac.uk](mailto:richard.blundel@open.ac.uk)) and Dr Aqueel Imtiaz Wahga ([aqueel.wahga@open.ac.uk](mailto:aqueel.wahga@open.ac.uk)).

## Appendix E Consent form for participation in this study

**Title of Study:** Role of Formal and Informal Institutions in advancing sustainable practices in SMEs of Pakistan's Textile Sector

<i>Please read the following and chose an appropriate choice for each.</i>		Yes	No
1.	I confirm that I have read and understood the information contained in the information sheet for this study.	<input type="checkbox"/>	<input type="checkbox"/>
2.	I understand that I can ask questions and/or seek clarifications and have these adequately addressed by the researcher.	<input type="checkbox"/>	<input type="checkbox"/>
3.	I understand that my involvement in this study is at my free will and that I can withdraw my consent up until one month following the interview without prior notice, providing any reason and with no adverse consequences.	<input type="checkbox"/>	<input type="checkbox"/>
4.	I understand that I can request for the information I have provided to be destroyed up until one month following the interview without providing any explanation.	<input type="checkbox"/>	<input type="checkbox"/>
5.	I understand and permit the researcher to digitally recorded the interview for academic purpose only.	<input type="checkbox"/>	<input type="checkbox"/>
6.	I understand that my identity and the information I provided will be kept confidential and will be omitted from interview transcripts, excerpts, study report, presentations, and publications.	<input type="checkbox"/>	<input type="checkbox"/>
7.	I understand that interview shall be transcribed within a month following the interview and I can request to see a copy of the interview transcript through email.	<input type="checkbox"/>	<input type="checkbox"/>
8.	I understand that anonymised data in the form of transcripts will be stored in Open University ORDO (Open Research Data Online) for a minimum of ten years unless the data is accessed and used by other researchers.	<input type="checkbox"/>	<input type="checkbox"/>
9.	I understand that I can read about the findings of this study by accessing the thesis on Open Research Online (ORO) repository of The Open University.	<input type="checkbox"/>	<input type="checkbox"/>
10.	I would like to be contacted for future involvement in the study, including follow up discussions.	<input type="checkbox"/>	<input type="checkbox"/>

Participant's Name: \_\_\_\_\_

Participant's Email Address: \_\_\_\_\_

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Researcher's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Your participation in this study is highly appreciated. Thank you!**

## Appendix F Interview guide

**Title of Study:** Role of Formal and Informal Institutions in advancing sustainable practices in SMEs of Pakistan's textile sector

This academic study aims to discuss the following topics with respondents with a view to understanding the emergence and function of intermediary organizations that promote sustainable environmental practices in small and medium-sized businesses. Questions will be read out to respondents, and their responses will be recorded and anonymized for analysis. The respondent has the right to withdraw from this study at any time, and his or her participation is purely voluntary.

### A. Draft questions for public institutions and intermediary organisations.

1. Can you please give a brief description of your organisation, and its primary areas of activity?  
(*prompt: initiatives, projects, departments for greening businesses*)
2. What was the motivation for the creation of this organization? (*prompt: ask for factors with examples*)
3. Has the size, structure, and aims / purposes of this organization changed over time? (*prompt: ask to identify any major changes*)
4. What factors you think led to changes in this organization in the context of Pakistan's textile industry? (*prompt: ask about illustration of changes*)
5. Based on the factors you have identified, were all of them conducive or inhibitive to the evolution or development of this organization within the context of Pakistan's textile industry?  
(*prompt: can you identify major events?*)
6. What are the main environmental / green practices that SMEs can adopt in your area of work?  
(*prompt: can you identify practices with examples?*)
7. In what ways does your organization promote environmental practices among SMEs? (*prompt: can you share any cases?*)
8. What sorts of environmental changes this organisation has brought in SMEs? (*prompt: beliefs, working practices, technologies*)
9. What factors do you think are most likely to cause SMEs to adopt or reject environmental/green practices? (*prompt: can you identify any cases?*)
10. What organizations (other than SMEs) have you worked with most closely, and how have they impacted your work? (*prompt: can you identify any cases?*)
11. What are your reflections on the effectiveness of above mentioned organizations in greening your businesses? (*prompt: can you identify any changes?*)
12. Could you please share your thoughts about the role of private or third sector organizations, such as NGOs, consultancy organisations in making SMEs pro-environmental? (*prompt: ask for illustrations*)

13. In your opinion, what is or are the gaps your organization is trying to fill? *(prompt: ask for examples/cases)*
14. Is there anything else that is important to understand your role in greening business that has not been discussed?

**B. Draft questions for SMEs.**

1. Could you please describe your business and main activities in a few sentences?
2. What are the production processes of this business and who are its customers? *(prompt: ask about target market and examples of practices and technologies)*
3. In your opinion, how has the textile industry changed over time? *(prompt: ask for illustrations of changes)*
4. What kinds of actions do you associate with the words, 'adopting sustainable environmental practices' or 'greening your business'? *(prompt: examples of practices)*
5. Can you describe your experience with adopting environmental practices in your business? *(prompt: provide examples of ease and challenges)*
6. How do you perceive the role of public organizations in the greening of your business?  
Consider, for instance, the roles of environment and climate change authorities, the division for textile industry in ministry of industries, and the authority for small and medium enterprises *(prompt: ask for examples)*
7. How would you consider input (if any) from private or third sector organizations such as institutes for cleaner production, textile universities, business associations, and non-governmental organizations? *(prompt: examples of inputs related to the environment)*
8. What is your opinion regarding the effects of such inputs on your business activities? *(prompt: illustrate events or impacts)*
9. What else is important to understand about environmental practices in businesses but has not been addressed in this discussion?

**Note:** The guide underwent a few revision following responses from the fieldwork.

## Appendix G A non-exhaustive list of certifications of exporters

This list of certifications represents the variety of sustainable practices and processes used by medium to large-sized textile firms in Pakistan.

- AATCC (American Association of Textile Chemists and Colourists) relates to testing colourfastness, wet testing and chemical analysis and it connects global textile community to empower an innovative, informed and sustainable future. Source: <https://www.aatcc.org/about/>
- ASTM (American Society for Testing and Materials) relates to specifications and test methods for physical, chemical and mechanical properties of organic and synthetic textiles, fabric and cloths. This standard helps manufacturers in testing textiles to ensure their acceptable end-use. Source: <https://www-astm-org.libezproxy.open.ac.uk/products-services/standards-and-publications/standards/textile-standards.html>
- BEPI (Business Environmental Performance Initiative) is a service that aims to improve environmental performance in supplying factories and farms. Source: <https://www.amfori.org/content/what-bepi-0>
- COTTON USA™ is a standard for sustainably grown cotton backed with data to show environmental credentials in supply chain. Source: <https://www.cottonusa.org/trust-protocol>
- Fair trade standard and certification aim at changing international trade in favour of better price, decent working conditions and better deals for farmers and workers in developing countries. It emphasizes on payment of living wages within six years, ensures freedom of association, elected worker representative and safe workplace and regulated workhours. Source: <https://info.fairtrade.net/product/textiles>
- GOTS (Global Organic Textile Standard) is a worldwide textile processing standard for organic fibres including ecological and social criteria that is backed by certification for whole textile supply chain. Source: <https://global-standard.org/the-standard>
- GRS (Global Recycle Standard) is a standard that set criteria for certification of recycled raw material (i.e., material is verified to meet ISO definition of 'recycling'), responsible production (i.e., site meets social and environmental requirements) and its chain of custody (i.e., identity of recycled material is maintained from feedstock to final product) throughout the supply chain. Source: <https://textileexchange.org/recycled-claim-global-recycled-standard/>
- Higg Index FEM (Higg Facility Environmental Module) 3.0 is a tool that standardises the measurement of annual environmental performance of a facility on annual basis. Source: <https://certifications.controlunion.com/en/certification-programs/certification-programs/higg-fem-higg-facility-environmental-module>
- ISO 26000 is a standard is a guidance that clarifies the meaning of social responsibility, assist business in take effective actions for implanting social responsibility and shares best practices relating to social responsibility. It represents commitment of a facility towards sustainability and over better performance. Source: <https://www.iso.org/iso-26000-social-responsibility.html>

- ISO 14001:2015 is a standard that specifies requirements for an environment management system to improve environmental outlook of a production facility (manufacturing and export of weaves, ranging from greige to printed fabric in 100% cotton and synthetic blends). It ensures better environmental performance, fulfilling compliance obligations and achieve environmental objectives. Source: <https://www.iso.org/standard/60857.html>
- ISO 45001:2018 is a standard that lays focus on occupational health & safety management system to prevent work-place related injuries and ill-health in a production facility (manufacturing and export of weaves ranging from greige to printed fabric in 100% cotton and synthetic blends). It ensures safe and healthy working environment is ensured for employees. Source: <https://www.iso.org/standard/63787.html>
- ISO 9001:2015 is a quality management system that focus on customers, motivation and implication for top management and continual improvement in production facility (production and export of all types of weaves ranging from greige to printed fabric in 100% cotton and synthetic blends). It ensures customers get good quality products consistently. Source: <https://www.iso.org/iso-9001-quality-management.html>
- OCS (Organic Content Standard) is a standard that sets criteria for certification of organic material (i.e., material has been from organic farms) and chain of custody (i.e., the identity of organic content is maintained from farm to final product). Source: <https://textileexchange.org/organic-content-standard/>
- RCS (Recycled Claim Standard) is a standard that set criteria for certification of recycled raw material (i.e., material is verified to meet ISO definition of 'recycling') and its chain of custody (i.e., identity of recycled material is maintained from feedstock to final product) throughout the supply chain. Source: <https://textileexchange.org/recycled-claim-global-recycled-standard/>
- REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) is the European Union regulation that applies to all chemicals (i.e., chemicals used in industrial processes and products of daily use such as clothes to protect human health and natural environment). Source: [https://environment.ec.europa.eu/topics/chemicals/reach-regulation\\_en](https://environment.ec.europa.eu/topics/chemicals/reach-regulation_en)
- SA 8000:2014 is a social accountability standard for a production facility (i.e., manufacturing and export of processed fibre and textile) to encourage and strengthen social performance in the workplace including capacity building, stakeholder engagement and collaboration between buyers and sellers. Source: <https://sa-intl.org/resources/sa8000-standard/>
- SEDEX/SMETA 6.0 (SEDEX Member Ethical Trade Audit) is an ethical trade certificate that audits labour standards, health and safety standards, environmental standards, business ethics in own operation or supplier site. Source: <https://www.sedex.com/solutions/smeta-audit/#:~:text=What%20is%20SMETA%3F,or%20at%20a%20supplier%20site.>
- Standard 100 by OEKO-TEX is a label that certificates that textile product has been tests for harmful substances to ensure product safety and confidence in product users. Source: <https://www.oeko-tex.com/en/our-standards/oeko-tex-standard-100>



- STeP (Sustainable Textile & Leather Production) by OEKO-TEX® is a certification tailored to all levels of production facility in textiles and leather manufacturing. It presents production condition from sustainability point of view, based on six modules: chemical management, environmental performance, environmental management, social responsibility, quality management and health and safety at work. It helps producers to better communicate their commitment to implementing pro-environmental processes, improving health and safety and promoting socially responsible working conditions in their production facility. Source: <https://www.oeko-tex.com/en/apply-here/oeko-tex-step>
- WRAP (Worldwide Responsible Accredited Production) certificate of compliance to twelve principles concerning human resource management, health and safety, environmental practices and legal compliances in a production facility (i.e., in textiles it covers all steps in textile production as well as packing, checking and dispatch). It ensures that production facility is fulfilling social standards compliance. Source: <https://wrapcompliance.org/en/certification/certification-explained/>
- ZDHC (Zero Discharge of Hazardous Chemicals) qualification represents the elimination of harmful chemicals from global supply chain (i.e., zero discharge of hazardous chemical in wastewater and sludge as by-products of yarn dyeing and bleaching and fibre dyeing finishing and washing) to ensure sustainable manufacturing that in turn protects workers, consumer and planets' ecosystem. Source: <https://www.roadmaptozero.com/>

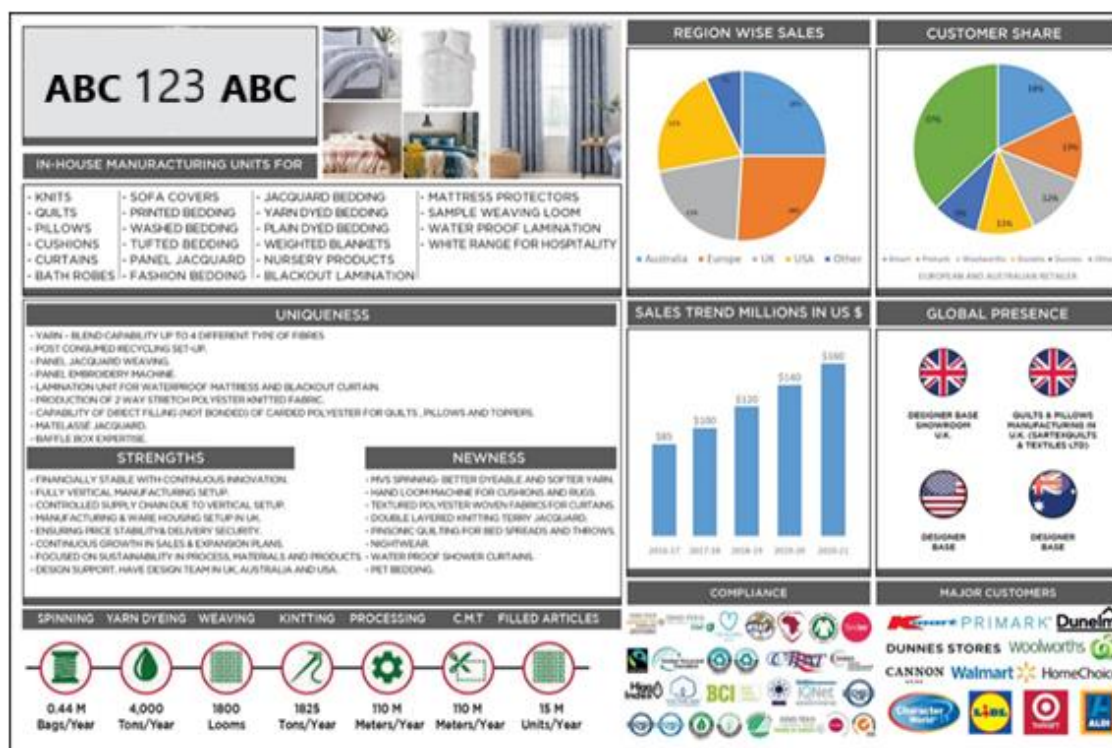
## Appendix H Sustainable and technical textiles in Pakistan

Sr.	Category	Product Name	Pakistan's % Share in Global Trade (export)	Top Countries (for Pakistan export)	Top 5 exporting countries in world
1	Protech	Gloves, mittens and mitts; knitted or crocheted, impregnated, coated or covered with plastics or rubber	4.88%	USA, United Kingdom, Netherlands	China, Sri Lanka, Belgium, Viet Nam, Pakistan
2	Packtech	Sacks and bags, of a kind used for the packing of goods	1.07%	Afghanistan, USA, Germany	China, India, Viet Nam, Turkey, Thailand
3	Medtech	Textiles; made up articles (including dress patterns), n.e.c. in chapter 63, n.e.c. in heading no. 6307	0.38%	USA, Germany, United Kingdom	China, Germany, United States of America, Viet Nam, Mexico
4	Buildtech	Tents; of textile materials other than synthetic fibres	14.45%	Saudi Arabia, United Arab Emirates, Kuwait	China, Pakistan, South Africa, United States of America, Netherlands
5	Medtech	Graduated compression hosiery (for example, stockings for varicose veins), knitted or crocheted	6.27%	USA, Germany, United Kingdom	Germany, Italy, United States of America, Pakistan, Switzerland
6	Sportech	Track suits, ski suits and swimwear; knitted or crocheted	0.51%	United Kingdom, USA, Germany	China, Viet Nam, Germany, (Hong Kong, China), France
7	Buildtech	Tarpaulins, lawnings and sunblinds; of synthetic fibres	1.45%	USA, Kenya, Syria	China, Germany, Poland, France, Netherlands
8	Sportech	Twine, cordage or rope; knotted netting, made up fishing nets and other made up nets, of textile materials	0.76%	Kenya, Dem. Rep. of the Congo, United Rep. of Tanzania	China, Viet Nam, Thailand, Japan, India
9	Protech	Garments; knitted or crocheted, n.e.c. in chapter 61	0.16%	USA, France, United Arab Emirates	China, Jordan, Italy, India, Viet Nam
10	Clothtech	Labels, badges and similar articles; of textile materials, in the piece, in strips or cut to shape or size, not embroidered	0.68%	USA, France, United Kingdom	China, (Hong Kong, China), Korea, Republic of, Italy, Taipei, Chinese

Among top fifteen exports products, globally.

Source: Repurposed from Nawab (2020, p. 107)

## Appendix I Sustainability outlook of a typical largest textile exporters in Pakistan



Source: Repurpose for this study with permission from the company

## Appendix J List of Projects for Pakistan's textile sector

### Industrial research and development projects at NTU for the textile sector

Sr.	Project Title
1	Development of Banana Fibre extraction machine (Prototype)
2	Ball fibre development Machine
3	Development of a mannequin for sportswear industry
4	Carbon Nano-Composite based Hockey sticks (Joint venture)
5	Development of handloom for carpets manufacturing
6	Graphene coated textiles for electronics applications
7	Development of smart fabrics for energy harvesting
8	Comparative effect of washing technologies in washing machines on mechanical colour and aesthetic performance of various fabrics
9	Develop a handloom for speedy development of a carpet production.
10	To Develop a process for dyeing technical fibres and yarns (Aramids, HPPE/UHMWPE, Modacrylic and their blends with Nylon and others)
11	Consulting & Training of different KPIs
12	Impact protection Via Auxetic Materials
13	Development of the specialty dyeing process of technical fibres and its optimization
14	Social & Environmental standards in textiles, Consultancy fund
15	Process improvement Activity at NSRM, "Implementation of Industrial Engineering / Lean tools in textile processing"
16	Consultation & Training services to apply industrial engineering techniques (cost per visit) Process Improvement Activity
17	Cottonization of Jute fibre for the development of jute-based apparels
18	Comparison of comfort & performance properties of Caustic and Ammonia mercerized cotton fabric
19	Development of spun based piezo electric yarns for energy harvesting socks
20	Cause analysis of yellowing issue in anti-allergy finished white coated fabric
21	Development of sheeting fabric with optimized tear strength properties
22	Evaluation of performance properties of Jute based home textiles
23	Development & Characterization of Antimicrobial Denim Fabric
24	Development of low wrinkle jute khaddar fabric and jute fabric blinds
25	Development of innovative fabric design and their weaving
26	Comparative analysis of Starch "R & H"

Source: NTU Website. Available at <https://ntu.edu.pk/oric/project-by-other-source.php>

### GIZ projects for improving international compliance of Pakistan's textile industry

Sr. No.	Project Title
1	Improvement of labour and social standards in Pakistan's textile industry 2017-2020.
2	Promoting sustainability in the textile and garment industry in Asia (FABRIC) 2019-2023.
3	Improvement of Labour and Environmental Standards in Pakistan's Textile Industry (TextILES) 2021-2023

Source: Compiled from factsheet of various GIZ projects for Pakistan's textile sector.

## Appendix K Description of potential respondents which are not part of sample

Sr.	ID	Description of sample	Scope of work	No. of interview	Remarks
1	Cons 2	IEE/EIA and environment related litigation	Provincial	1	Irrelevant to study
2	Cons 3	International certifications and process efficiency	National	×	No response to invitation
3	Cons 4	Technical support	Provincial	×	No response to invitation
4	NFPO 2	Cleaner production	National	×	No response to invitation
5	NFPO 3	Energy management	National	×	No response to invitation
6	IBDO 3	Investment	International	×	No response to invitation
7	PSO 6	Trade development	National	1	Irrelevant to study
8	PSO 7	Textile development	National	-	Not available for interview
9	PSO 8	Productivity enhancement	National	×	No response to invitation
10	PSO 9	Environment protection	Federal	-	Not available for interview
11	SME 6	Textile processing	Non exporter	0	Declined to participate
12	SME 7	Textile processing	Non exporter	×	No response to invitation
13	SME 8	Textile processing	Non exporter	×	No response to invitation
14	SME 9	Textile processing and knitting	Indirect exporter	0	Declined to participate

Source: Author's own



## Appendix L GIZ promoting sustainability in Pakistan's textile sector

Ensure EPA Punjab impact on grass-roots level through Climate Change adaptation measures (26 April 2022)



Source:  
<https://twitter.com/GIZPakistan/status/1518888655393374211>

Dialogue for Sustainability (DfS) with partner factories for textile manufacturing mills (13 January 2022)



Source:  
<https://twitter.com/GIZPakistan/status/1481568055671021569>

Change Management Team workshop on resource efficiency and chemical management (2 November 2020)



Source:  
<https://twitter.com/GIZPakistan/status/1323234045954789376>

TextILES - Bringing relevant stakeholders together for sustainability and good governance in Punjab's textile industry (29 March 2022)



Source:  
<https://twitter.com/GIZPakistan/status/1511669368668753923>

## Glossary

### ▪ **Field logic**

Field logics are organising principles based on differences in practices and beliefs.

### ▪ **Formal institutions**

Formal institutions are the institutions that are well diffused practices, technologies, or rules that have become entrenched in the sense that it is costly to choose other practices, technologies or rules.

### ▪ **Institutional arrangement**

Institutional arrangements are rules, regulations, norms, values, and taken for granted assumptions about what constitutes appropriate behaviour.

### ▪ **Institutional change**

Institutional change is an outcome of institutional work process, whether successful or unsuccessful, that can represent in form of new or modified institution.

### ▪ **Institutional field**

Institutional field refers to organisations that in the aggregate constitute an area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products.

### ▪ **Institutional gaps**

Institutional gaps refer to varying degree to which an institution may be present or missing.

### ▪ **Institutional voids**

Institutional voids refer to the absence of formal institutions that are specialised intermediaries, regulatory systems, and enforcement mechanisms to bring buyers and sellers together.

### ▪ **Institutional work**

Institutional work are the purposive action of individuals and organisations that are aimed at creating, maintaining and disrupting institutions.

### ▪ **Intermediaries**

Intermediaries are actors who link two or more parties to bring about activities.

### ▪ **Isomorphic pressures**

Isomorphic pressures are competitive or institutional pressures that force firms to resemble with other units which are facing similar set of environmental condition.

- **Proto-institutional sponsors**

Proto-institutional sponsors are a group of actors who create proto-institution.

- **Proto-institutions**

Proto-institutions are rules, practices, and technologies that are partially diffused and weakly entrenched but poised to become widely institutionalised.

- **Sustainable practices**

Sustainable practices are those organisational activities or operations that support triple bottom line principles of sustainability.

- **Triple bottom line**

Triple bottom line is a holistic assessment of a company's economic, social, and environmental performance. It consists of three Ps: profit, people, and planet by which companies should assess their bottom lines.